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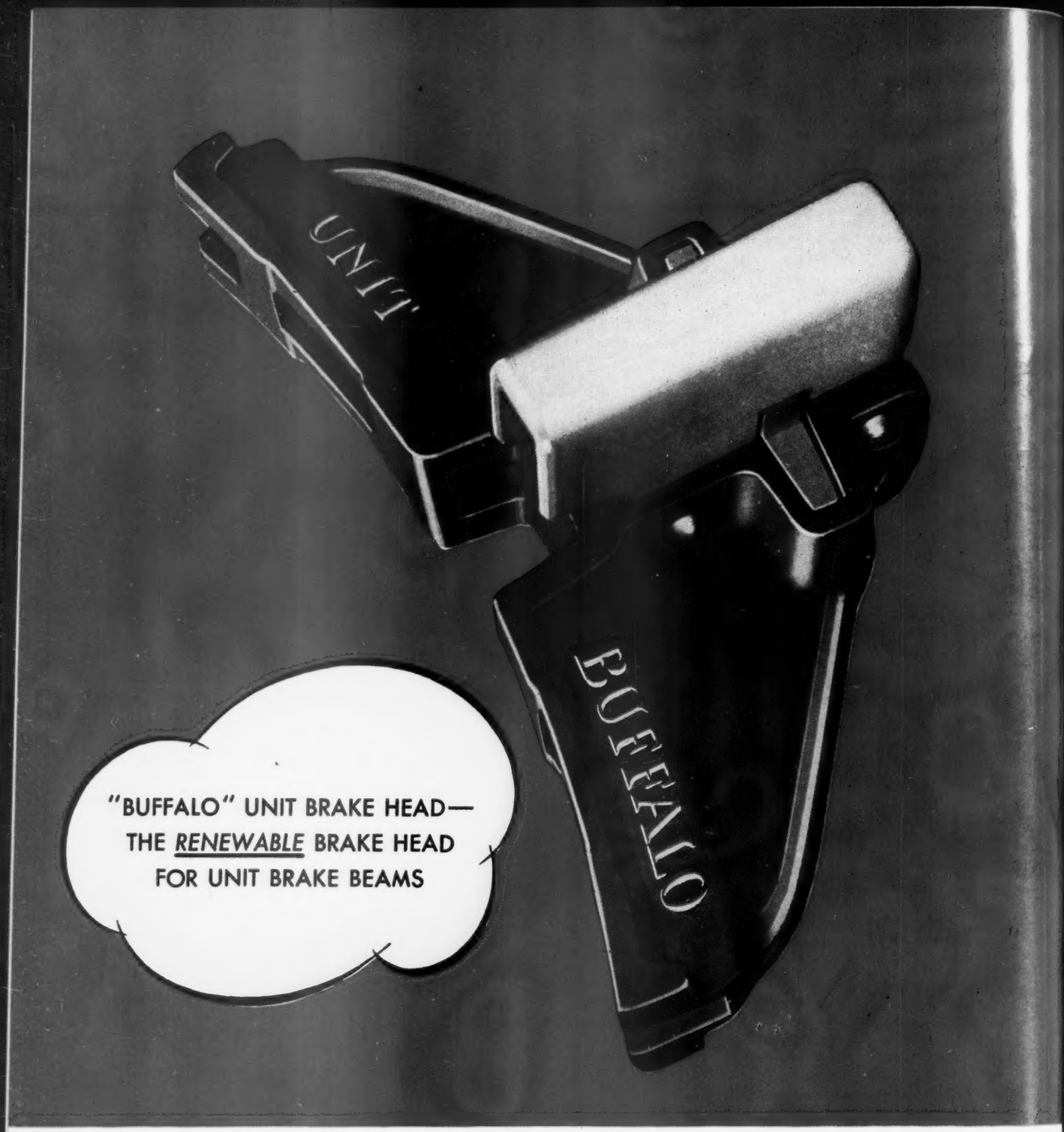

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RAILWAY AGE

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WEEK AT A GLANCE

FORESTRY AND THE RAILROADS: Probably few people, even within the industry itself, have any real conception of the stake which the railroads, both as users and as carriers of lumber and lumber products, have in the protection and future development of America's forest resources. Possibly even fewer people realize the extent to which railroads in all parts of the country are actively protecting their interest in forestry through fire prevention activities, operation of tree farms and demonstration forests, tree planting, and cooperation with other agencies and institutions concerned with forest protection. Details of such activities are incorporated in the illustrated article on page 52, by Roy Paul Nelson, of the American Forest Products Industries. It's a striking example of the many "extra-curricular" contributions which the railroads, alone of all agencies of transportation, make to the social and economic welfare of the United States.

MOTIVE POWER PROBLEM: Development, and rapid adoption, of the Diesel-electric locomotive has brought to the railroads many unquestioned benefits. But it has also brought some new problems. How far, for example, to go in Dieselization? How much steam power—if any—to retain, and how to retain it? What to do about steam locomotive and servicing facilities? Some facets of such problems are explored in our leading editorial, on page 43.

IMPROVED FINANCIAL POSITION: It's only facing facts to admit that not all railroad news these days is cheerful reading for those who want to see the industry continue as a strong and efficient segment of private industry. But there are some bright spots in the picture. One of them is the very definite improvement in the industry's basic financial position today as compared with 20 years ago—an improvement resulting very largely from reduction in funded debt and fixed charges, plus Dieselization. Some of the factors in this improved outlook were reviewed last month by Frederic Uhrbrock, New York security analyst, in a paper delivered at a gathering of his professional colleagues. Mr. Uhrbrock's remarks are reprinted on page 50.

INCIDENTAL INTELLIGENCE: An outsize five-axle tractor-semi-trailer truck, bearing an Arizona license, but otherwise unidentified, was parked for two days last week under New York City's elevated West Side highway. On its rear end were the words, neatly painted in old English lettering, "Crime don't pay; neither does trucking."

GOOD CUSTOMERS: Buying, as they do, enormous quantities of all types of material, railroads are important customers of many varied industries. Just how important is revealed on pages 56-58, which include *Railway Age's* own summary of the industry's January purchases and the A.A.R.'s report on total 1949 buying, broken down in considerable detail as to commodities. Due in part to the reduced level of railroad operations in 1949 and in part to lower prices on some commodities, 1949 purchases were somewhat below those for 1948 and 1947, but were higher than in any of the 23 years prior to 1947. And January, 1950, figures were above those for January, 1949. With car loadings looking a good deal better since settlement of the coal strike, and with new equipment orders continuing far ahead of those for last year, it seems reasonable to assume that purchasing figures to be reported in coming months will continue to show further gains.

DIESEL COMPETITOR? Potential competitor of the Diesel-electric locomotive is the coal-burning gas turbine, now undergoing experimental stationary tests. On page 59 John I. Yellott, director of research for the Locomotive Development Committee, reviews steps in the committee's progress toward perfection of a locomotive powered by such a unit. Mr. Yellott covers development of components, full-scale component tests, and the present Houdry turbine installation at Dunkirk, N. Y.

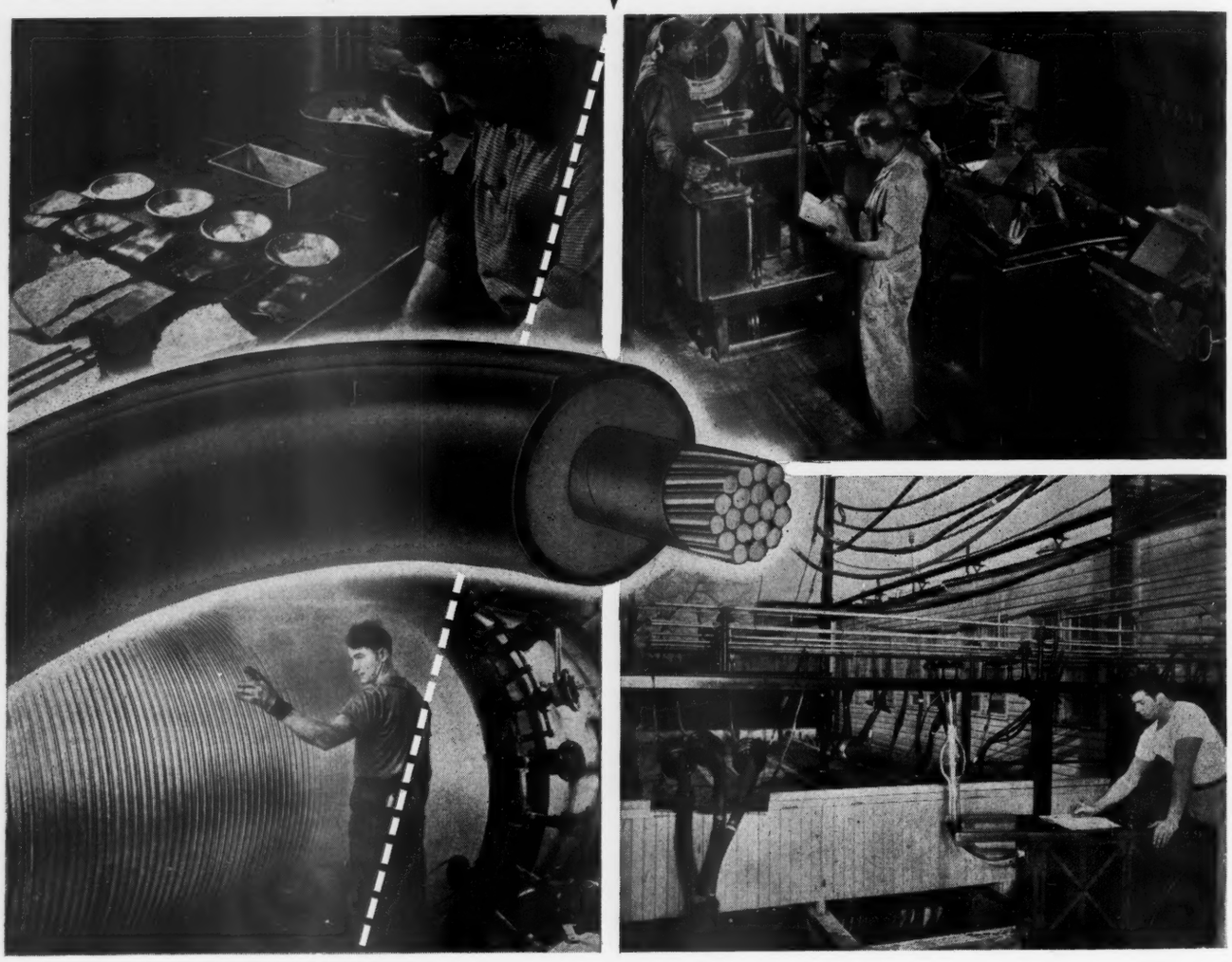
EFFECT OF LONG-DISTANCE TRUCKING: As this paper has frequently pointed out, diversion of rail traffic to highway haulage will inevitably lead to higher rail rates on those heavy basic commodities which trucks either cannot or will not handle. Realizing this, and on that very ground, 16 leading grain trade organizations have asked the I.C.C. to institute a general investigation of the economic and other effects of long-haul highway transportation of freight. Their request is reported in the News.

SECOND MORNING TO CHICAGO: Second morning delivery of l.c.l. freight from New York to Chicago was inaugurated this week by the New York Central, the Erie and the Delaware, Lackawanna & Western (in cooperation with connecting lines). The expedited service is reported in the News pages.

ON THE NEWS FRONT: Further railroad testimony before the Senate's subcommittee on domestic land and water transportation.—1,000 new cars for the Reading.—Developments in labor controversies.—I.C.C. to limit hearings on motor carrier applications.—Truck and water traffic reach new high levels for 1949 and 1948, respectively.—New "400" on the C.&N.W.

FASTER ICING: Faster and more economical icing of refrigerator cars has been made possible through recent development by the Railways Ice Company and the Link-Belt Company of three different machines by which all phases of icing may be put on a highly mechanized basis. One or more of the machines, designed to fit every local situation, can be used to supply either bunker ice or top ice, or both. The machines—and also a new portable safety platform—are described and illustrated in the article which begins on page 46.

a *NEOPRENE SHEATH* is no better than its *COMPOUNDING**



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A SIMPLE SOLUTION TO THE MOTIVE POWER PROBLEM

The replacement of the steam locomotive by the Diesel-electric is reaching something like a "saturation point" much more rapidly than most people would have predicted as recently as five years ago. As a consequence, many railroad operators are confronted sooner than could have been long foreseen with a pressing problem of vital importance having to do with motive power economics—that is, whether or not there is a practicable and desirable stopping place short of complete Dieselization; and if so, where that stopping place should be in individual cases.

Railway motive power development has not reached a condition of equilibrium, permitting the statement of comparative economics of alternative courses in a simple and generally acceptable formula. The endeavor to simplify this dynamic condition into a formula suited only to a static period may have been partially responsible for the deterioration of the strong position once occupied by the steam locomotive. It is a hard job to anticipate the economic advantages of an instrument when knowledge of its potentialities which changes more rapidly than advance calculations based on past performance can be completed. Nevertheless, difficult as the problem is to pin down, some answers must be found, based on fact as nearly as it can be currently ascertained.

What is the most reliable counsel as to the proper and realistic course to pursue regarding motive power in the next five, ten or fifteen years? Prior to the war, expressions of opinion by those best qualified to have an opinion on the motive power situation invariably pointed to the desirability—indeed the urgent need—for the establishment of a motive power policy by American railroads. There was then no such policy, except in isolated cases. If the solution of the motive power problem had been approached with as much foresight as has been applied to many other railroad and industrial problems, few railroads would have found themselves confronted with a choice which might be expressed as "Dieselize, or else." The hand of many railroad managements was forced, by no means disastrously this time, because of a lack of a long-range policy which took all calculable probabilities into account.

Easy Answer Not Always Right

In this particular case, lack of foresight was not punished as it usually is. The railroads waited for something to turn up and, oddly enough, something did. But isn't this fortunate outcome having the effect of discounting the value of foresight? Isn't there now too much of a tendency to jump at the easy conclusion that no more planning is needed from now on—except to replace steam with Diesels as rapidly as the money can be found with which to do it? And, having done that, to conclude further that tremendous collateral economies may be effected

by the complete elimination of the facilities with which steam motive power has been inspected, serviced and maintained? The temptation to such conclusions is strong, because they are plausible; but are they not also suspiciously easy? One vivid memory which still lingers from our long-ago school-days is that, when a complex algebra problem was assigned for homework, a quick and easy answer was usually wrong.

Several railroad officers—mechanical, operating and financial—questioned on how long it may be before the change-over from steam to Diesel will be completed on their roads, give answers varying all the way from two years to a dozen. For the Class I roads our own statistical guess—which is all it is, too—is 12 years or more, at the present rate of change-over.

These officers were asked, further, what their roads expect to do with the remaining steam units. Almost without exception they replied that the older units will be scrapped; and that the more modern units will be retained, in storage, to take care of the seasonal traffic peaks which occur one or more times in each year. This answer raises the question as to what will be retained in the way of steam-locomotive repair and servicing facilities. If steam power is to be stored, except for short periods each year, is it going to be stored "serviceable" or in "bad order"? What about the back shops and the engine terminals with coal- and ash-handling facilities? Are they going to be "stored" too?

Peaks and "Emergencies"

It is quite possible, should railroad traffic remain at about present levels for, say, five or ten years, that a carefully worked out policy of motive power replacement would point to a specific ownership and utilization position for each individual road wherein a minimum number of Diesel-electric units, in both road and switching service, could handle all the business except the seasonal peaks; and that the stored steam power could be put in condition, once or twice a year, to step in and help out—and then go back into retirement. It sounds simple. On the other hand, the longer this method of operation goes on, the more rapid and complete will be the deterioration of both the stored steam locomotives and the little-used facilities—both of which must, however, continue to be serviced and repaired. All this could cost a lot of money, after a few years.

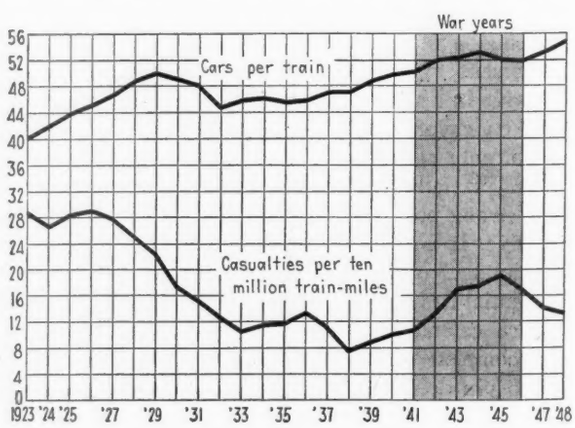
We went further and asked several people, who should know as much as anyone can, just how they believe the foregoing "policy" might work out in event of war, say ten or twenty years. hence. This answer was simple, too. Suppose, for example, that in order to handle the railroad business of the years to come we need about 20 or 25 thousand Diesel-electric units and a "reserve" of, say, 10 or 15 thousand steam units. Most of the railroads could completely abandon their steam facilities and thereby effect the economies that logically should be expected as a result of complete Dieselization. Thereupon a group of strategically located heavy repair shops could be provided to handle the job of reconditioning the steam power, if and when needed. The roads without facilities for making heavy steam repairs could make some arrangement with the roads having the shops to do their work for them.

Should war then come, these regional shops could turn to and put the steam power in shape for service. Ten modern regional shops, working 24 hours a day, could turn out perhaps 500 Class 2 repairs a month and in 20 to 30 months all 10 or 15 thousand "reserve" steam units could be rebuilt. If World War III should become an eventuality, could it be arranged to fit that schedule?

LONG TRAINS ARE NO SAFETY HAZARD

"Time was when railroaders enjoyed their work and looked forward to being called out on runs," according to C. C. Watt, Brotherhood of Railroad Trainmen publicity chairman at Pratt, Kan., quoted in the February 27 Trainman News. But now, says Mr. Watt, citing the alleged hazards of slack action, "there is a dread and fear prevalent among all train employees about going out on these long trains."

The editors of the Trainman News would do well to check the record. According to the Interstate Commerce Commission, casualties to trainmen caused by "sudden stop, start, lurch or jerk of locomotive, car or train" have been reduced by 54 per cent over the past quarter century, from 2.88 per million train-miles in 1923 to 1.33 per million train-miles in 1948. During that period, the length of freight trains increased 43 per cent, from an average of 39.9 cars



Casualties to trainmen as a result of sudden stops, starts or lurching of trains have decreased, while the average number of cars per freight train have increased

per train in 1923 to an average of 56.9 per train in 1948.

The accompanying chart illustrates how these casualties have declined as the length of trains has increased, with the only notable exceptions to the trend occurring during the war years.

Hand in hand with increased train lengths have come mechanical advances such as steel construction, better couplers and draft gears, and A-B brakes, which have lessened the hazards of slack action. More recently, increases in train length have resulted from Dieselization. The use of Diesel-electric power has, in turn, reduced rough starts and—particularly where dynamic braking is employed—provided better control over run-in and run-out and in deceleration.

The progressive increase in the length of trains has been the principal factor permitting the railroads to keep charges for transportation anywhere near in line with those of their subsidized competitors, and to remain, to any degree at all, solvent. If the average train length were still 46.6 cars, as in 1937, it is doubtful that the railroads would have been able to meet any of the many wage increases and working rule changes made since that year. Testimony of the unions in these wage cases indicates that they are well aware that operating efficiency has been an important factor in enabling the railroads to meet their demands. This brings to mind the conversation recently overheard in a caboose. A young brakeman complained that "if it weren't for that damned big Diesel up in front, I wouldn't be bucking the extra board." To which the "whiskered" conductor sagely retorted, "Yes, and if it weren't for that damned big Diesel up in front, you wouldn't be getting $1.80 an hour."

For the railroad unions to advocate return to short trains would be comparable to a demand of the teamsters' union for a return to horse power for transportation over the highways. The employee whose job is in gravest jeopardy is the one whose employer is not earning enough to cover his expenses. To safeguard the jobs of railroad men, what is needed is more *long* trains, not just more trains.

MANY A TRUE WORD IS SPOKEN IN JEST

We have visions of corporation presidents rendering this report to stockholders:

"The new federal tax regulations imposed an unexpected charge against last year's earnings. We had to hire a new clerical staff; and to house the new clerical staff it was necessary to rent another building. In fact, provisions for computing taxes became so heavy that they ate up profits and so we had to pay no taxes."

Of course the poor man will be investigated and he will be lucky if he is not nationalized forthwith.

—*The Wall Street Journal*

AN OUNCE OF PREVENTION

One of the more serious train accidents that have occurred in the United States since the war took place adjacent to an industrial plant in which by good fortune, a number of employees had completed a first-aid training program. An emergency station was quickly set up at the scene of the disaster, and not only was the toll of life considerably reduced by the early attention given the injured, but permanent disabilities were minimized and human suffering was greatly relieved.

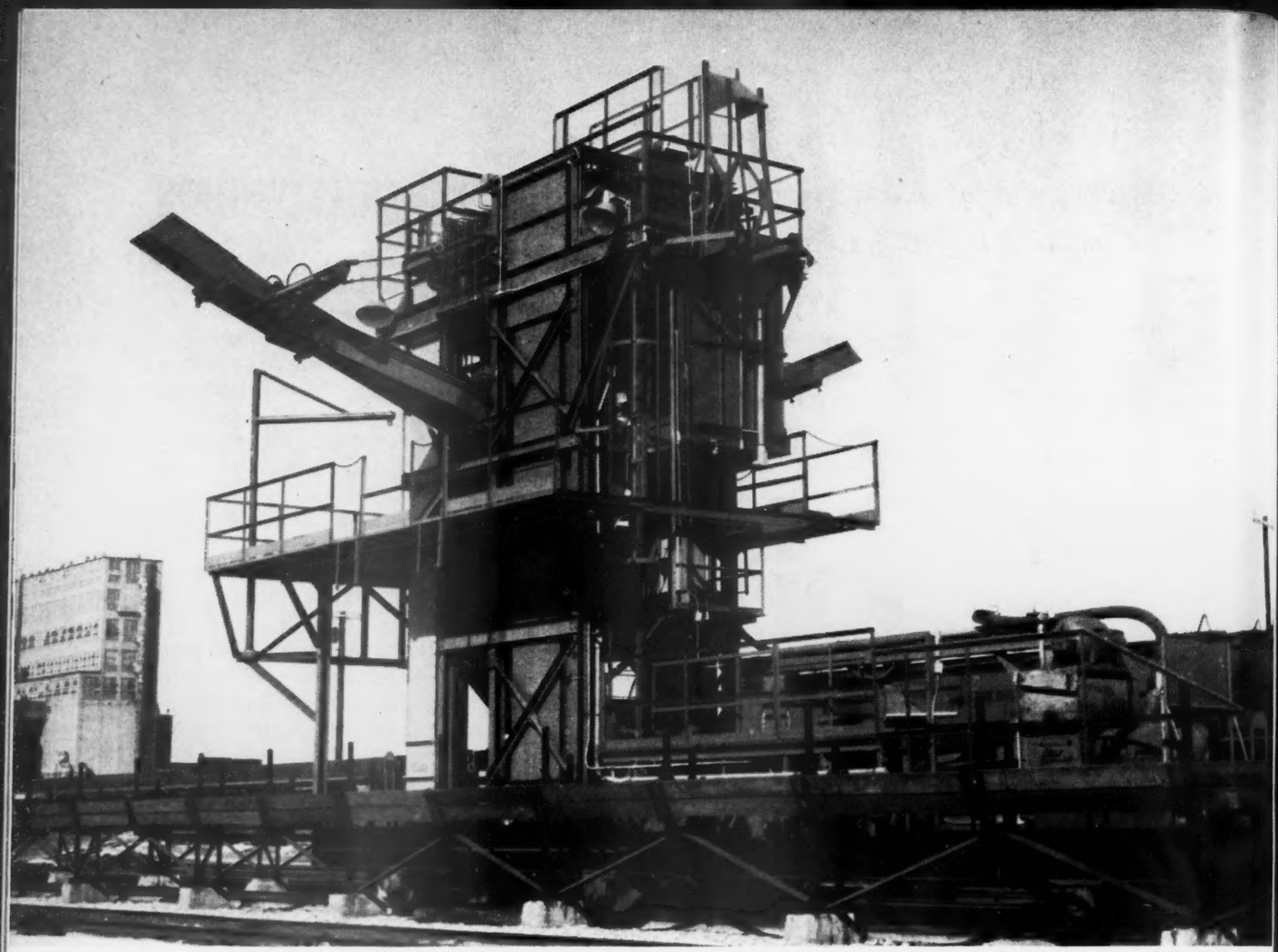
If this accident had occurred at almost any other point, such immediate, semi-skilled treatment of the injured would have been possible only if the railroad employees involved were, themselves, first-aid trainees.

Before World War II the American Red Cross conducted a great many first-aid instruction programs on the railroads. Since the war, however, in the 17-state territory of the Red Cross Midwest area, only five roads have requested first-aid instruction training. The Atchison, Topeka & Santa Fe and the Great Northern have embarked on extensive programs. The Texas & Pacific, the Chicago & Western Indiana and the Belt Railway of Chicago have undertaken limited training. The Postal Transportation Service has begun a national program that will be progressed until every man in the railway mail service has received a standard Red Cross course of instruction. Outside of the railroads, the 18-hour course—which the Red Cross provides without charge—is currently in progress in more than a hundred industries in the territory covered by the Chicago chapter alone.

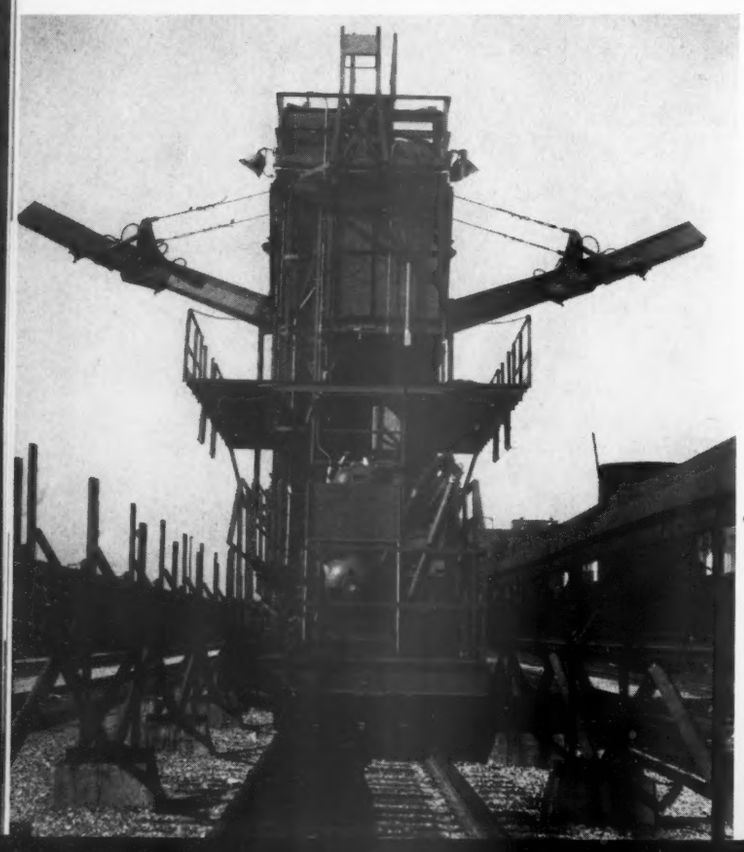
First-aid training is taught to small groups by qualified Red Cross representatives. From each group the instructor picks out those who show special aptitude for the work, and gives them 20 to 30 hours additional training so that they can carry on the teaching job.

In the Santa Fe's system-wide program, which began in May, 1949, 13 safety supervisors and two assistants to the superintendent of safety, as well as a number of other employees, are now qualified instructors. The safety department sponsors meetings at various points. Attendance is voluntary, but good turnouts have been experienced. The interest of those who have taken the courses is evidenced by the fact that 90 per cent of them have chosen to retain, at their own expense, instruction books which the Red Cross loans them for the course.

First aid can be invaluable to the railroads not only in cases of disaster but in handling commonplace injuries to employees on the job—in the shops, on the road, and even in offices. Throughout the country local chapters of the Red Cross stand ready to furnish the standard first-aid training program. The railroads have only to signify their willingness to accept this aid.



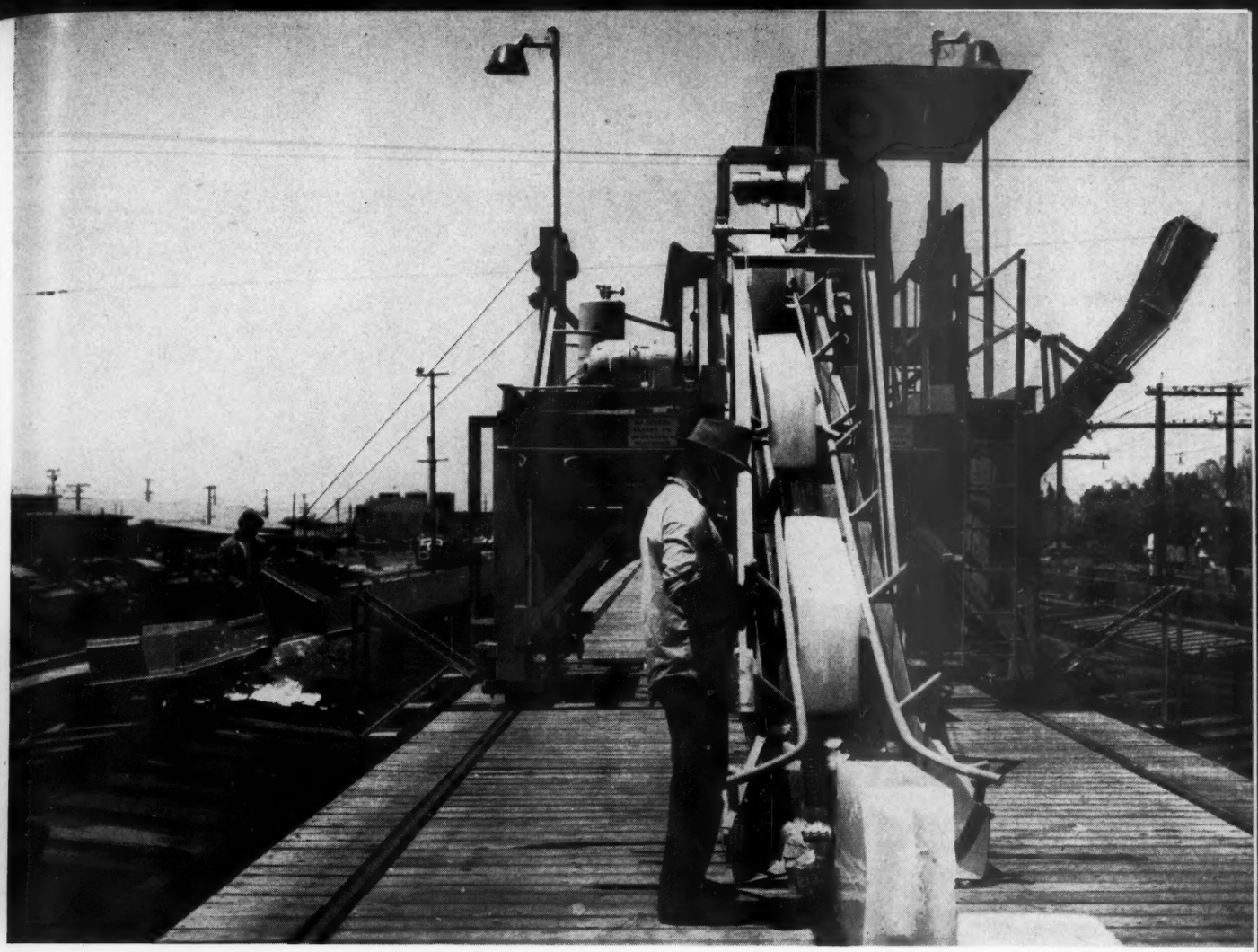
Above—Designed for delivering both top ice and bunker ice to refrigerator cars, the Link-Belt Rico Master car icer can service two lines of cars. This machine is self-propelled and furnishes processed bunker ice at the rate of 160 tons an hour. Below—All operations of the Master car icer are controlled by one operator situated on a control platform at the top. The platform near car-roof level is an optional feature for the handling and storage of car heaters during the cold season



Opportunities for expediting the icing of railroad refrigerator cars and for reducing the cost of such work have been considerably enhanced through the recent development of equipment by means of which all phases of this operation may now be put on a highly mechanized basis. This equipment consists of several different types of machines for the application of either bunker ice or top ice, or both, depending on conditions or requirements at particular locations. It was developed jointly by the Railways Ice Company and the Link-Belt Company, both of Chicago, and is being manufactured and sold by the latter.

The Master Car Icer

These recent developments include three separate machines. One, operating on a standard-gage track at the ground level, is designed for applying both top ice and bunker ice, and is known as the Link-Belt Rico Master car icer. Another, designed for operation on the decks of high-level icing docks, also applies both bunker and top ice, and is known as the Link-Belt Rico dock-type car icer. The third, designated the Link-Belt Rico self-propelled rail-type top icer, operates on a track at the ground level and is designed for top icing only. Still another recent development is a portable safety platform for the use of men engaged in top-icing operations.



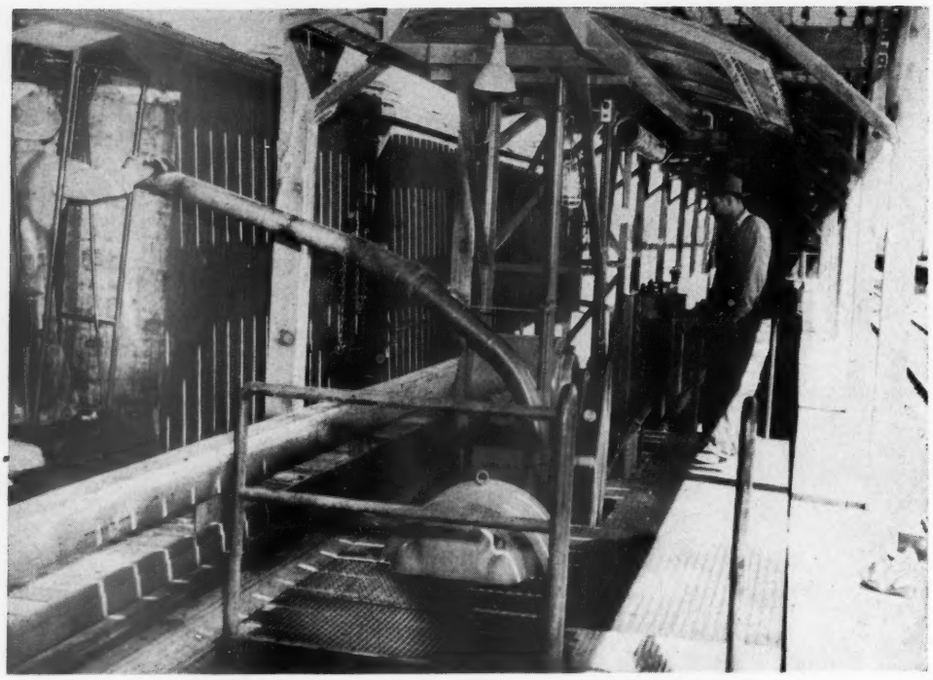
The Link-Belt Rico dock-type car icer was developed for operation on the decks of high-level icing docks, and can furnish both top ice and bunker ice to cars on either side of the machine

Reefer Icing Yields to Machine Power

Complete mechanization of this operation, with attendant savings in cost and time, is now possible with newly developed equipment designed to fit every local situation

The Master car icer requires no icing dock or other auxiliary structure except an ice conveyor, situated directly alongside of the icer track, for bringing the ice cakes from storage. This icer is self-propelled and is designed to service two lines of refrigerator cars, one on each side. The machine is approximately 54 ft. long, is mounted on three axles, and is powered by electric motors which receive power from trolley wires situated beneath the ice conveyor. Carried on one end of this unit are a steel tower having an overall height of about 31 ft. above the rails, propelling motors and machinery, ice-crushing machinery, a bunker-ice elevator, a salt bin, a salt feeder and elevator, an operator's control panel and platform, and two boom chutes, one on each side. At the other end is a conventional crusher-slinger, with a swiveling discharge elbow for top icing. Between the crusher-slinger and the tower there is a reversible feeder conveyor which removes ice cakes from the storage-house conveyor by a power-operated retractible plow, delivering them either to the bunker-ice crusher at the tower end of the machine or to the crusher-slinger.

All operations of the machine, including the movements of the ice conveyor, are controlled by a single operator on the control platform, which is about 26 ft. above the rails, affording him a good view of all icing



Self-propelled and moving along rails laid at ground level, the new Link-Belt Rico rail-type icer is reported to be a fast machine for top-icing operations. Workman at left is standing on the new portable safety platform which is suspended from the opened car doors

operations. Aside from the machine operator the only personnel required in icing cars with this machine are the few men needed for opening and closing bunker hatches and for directing the flow of slinger ice. After being removed from the conveyor the ice blocks, if they are to be used for bunker icing, are carried by the feeder conveyor to the bunker-ice crusher, which can be quickly adjusted to produce various sizes of chunks. An enclosed elevator raises the crushed ice and drops it into the boom chutes which discharge it into the bunker hatches of the cars. The machine operator also controls the raising and lowering of the chutes as well as the opening and closing of a gate in each chute for the distribution of the ice into the near or far hatch.

With this machine bunker ice may be handled at the rate of eighteen 300-lb. blocks or thirteen 400-lb. blocks per minute, which is the equivalent of 160 tons an hour when fed continuously and uniformly to the machine. Machines can be produced with greater output capacity, if desired. When only the two primary rolls of a three-roll crusher are operated, the size of the ice may be varied, by adjusting the position of one of the rolls, so that the greater percentage of the output will be chunks of any size desired between 10 lb. and 40 lb. When the third roll is engaged, crushed ice of a smaller size will be produced, suitable for meat icing with salt.

Salt is carried on the machine in a 15,000-lb. capacity bin. A salt-feeder conveyor at the base of the bin delivers the salt horizontally to a separate bucket-type elevator, which raises and discharges the salt into the boom chute simultaneously with the crushed ice. A salt counter, which is set by the machine operator for increments of 25 lb. of salt per second, automatically measures the amount of salt required for each bunker. An interesting feature of the equipment is that the salt-feeder conveyor and elevator are also used to refill the salt bin.

For top icing, the blocks are carried by the feeder conveyor into the crusher-slinger which reduces them to fine particles that are delivered through the side doors of the cars by the usual method, involving the use of an impeller and a flexible tube. The crusher-slinger normally furnished produces fine ice at the rate of nine 300-lb. blocks or seven 400-lb. blocks a minute, which is the equivalent of 80 tons an hour. Drop panels, built on the outside of the ice-run conveyor from the storage house, serve as convenient platforms on which workmen can stand to direct the flow of ice from the flexible tube.

The Master icer travels along the rails at the rate of 300 ft. a min. The control equipment can be arranged to permit the operator to start and stop all conveyors bringing ice blocks from the storage house to the machine as well as to the various working units. In general, it is recommended that a two-way communication system be installed to keep the operator in touch with the storage house and other stations of the plant.

Operating Procedure

The normal procedure with this machine is to fill the bunkers of the refrigerator cars standing on one side of the machine first, and then those of the cars on the opposite side on the return movement. This permits one string of cars, when iced, to be pulled from one track and a new string switched in while the machine is working on the cars standing on the other track.

Since, by means of the feeder conveyor, the operator can quickly divert ice either to the bunker icing unit or to the crusher-slinger, bunker or top ice may be ap-

plied to cars as necessary as the machine moves along, eliminating back-tracking. Because only about 5 to 10 cars in a string of 100 cars normally require top icing, it is expected that the machine will be engaged for the most part in icing car bunkers.

The versatility of this machine can be enhanced by incorporating an auxiliary platform, jib cranes and hoists to handle car heaters during the cold season. When this is desired, the auxiliary platform will be built on the machine at a level near the top of refrigerator cars. It can be constructed to hold as many heaters as required. Two jib cranes, one on each side of the machine, equipped with 1-ton hoists, will further expedite removal of fuel-exhausted heaters from bunkers and their replacement with fuel-replenished heaters.

Because of the heavy wind loads encountered in some parts of the country and the possibility that some tracks over which the machine will operate may not be in the best of surface or cross level, careful attention was given to stability when designing the tower carrier.

Dock-type Car Icer

The dock-type car icer, also self-propelled, is similar to the machine installed by the Atchison, Topeka & Santa Fe at Bakersfield, Cal., which was described in detail in the December 10, 1949, *Railway Age*, except that the Bakersfield machine did not have a crusher-slinger nor a saltbin trailer, which are normal components of this machine.

The dock-type car icer is mounted on four double-flanged wheels and moves along standard rails fastened to I-beam girders on the deck of the icing platform. Track gages are normally from 9 to 12 ft. The machine straddles a dock chain conveyor which brings the ice cakes from the storage house, and, by means of an inclined pick-up conveyor, receives the ice cakes from the dock conveyor and elevates them to a feeder conveyor. which passes them to the crushers. For bunker icing, the processed ice is then delivered to car bunkers through chutes placed on both sides of the machine. Although only one pick-up conveyor is furnished when ice is to be received from one direction, the machine can be equipped with two pick-up conveyors to receive ice from two directions. Maximum output of this machine is forty 300-lb. blocks a minute, or 360 tons an hour when fed continuously and uniformly.

Salt is carried in a bin supported on a trailer which travels on the same rails as the machine. When salted ice is desired, salt is taken from the bin to one of the boom chutes by a conveyor which can be set by the machine operator to deliver the required quantity.

For top icing, the ice blocks are diverted by the feeder conveyor directly to the crusher-slinger, where they are reduced to fine particles and delivered into the refrigerator cars on either side of the dock by an impeller and flexible hose which necessarily extends downward to reach the side doors.

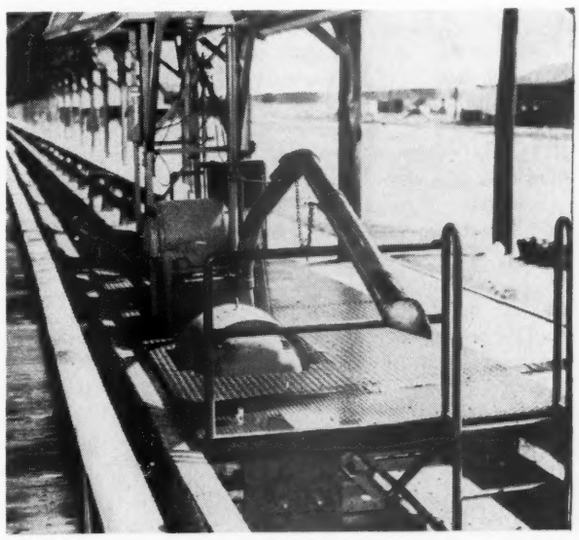
Rail-type Top Icer

Also a self-propelled unit, the rail-type top icer is comprised of a high-capacity conventional-type crusher-slinger mounted on a car which travels on the rails of a narrow-gage track. It receives ice blocks delivered from the storage house by a dock conveyor at car-floor level, the ice blocks being mechanically deflected to the machine and carried by a feeder conveyor to the crusher-slinger.

This type of top-icing machine is said to be much faster in operation than the conventional crusher-slinger machines. Being self-propelled the machine can be moved and spotted much faster than the hand-pushed platform type. Also, although the rail-type top icer requires the construction of a catwalk at car-floor level on each side for the workmen's movements, as well as the construction of a track and an ice-run conveyor, this type is expected in general to be less expensive to install and maintain.

The rail-type crusher-slinger will crush block ice at the rate of nine 300-lb. cakes a minute or 80 tons an hour. A swiveling discharge elbow permits the top icing of cars on either side of the machine. The operator's platform, at car-floor level, is made of steel plates with a safety tread. As with the other units of the new line of mechanical icing machines, a two-way communication system between the operator, storage house and other strategic stations of the ice plant can be provided, and the machine operator can start and stop all conveyors bringing the ice blocks from storage. Space is provided on the rail-type top icer for transporting a portable safety platform.

The portable safety platform has been developed to protect the workman who directs the flow of ice from the hose where top-icing equipment is used, and to provide a place for him to stand on the outside of open doors of refrigerator cars. The platform is suspended from the tops of the opened car doors. It is pointed out that the platform moves with the cars, thereby protecting the workman from injury in the event of an unexpected train movement; that it allows full vision of the entire top-icing operation; that it protects the workman from ice falling from an overhead dock; that it supports the crusher-slinger hose, thus reducing operator fatigue; and that it eliminates the need for ladders or other precarious supports.



The rail-type top icer mechanically picks ice blocks from the dock ice conveyor, processes them, and discharges the fine ice particles over loads in cars on either side of the machine

IMPROVED FINANCIAL POSITION of the Railroad Industry

By FREDERIC UHRBROCK*

Looking east through the junction of the Long Beach branch (right) of the Long Island with the main line to Montauk, at Valley Stream, N. Y. Valley tower in the background

Most investors all too often think of our railroads as one cohesive unit. Opinions of individual securities are often flavored by a reaction to, or a prejudice against, the industry as such. The hard cold facts of the strength and progress of the industry are too often submerged by a welter of unfavorable publicity, especially if a rate case is before the [Interstate Commerce] Commission.

The financial changes that have occurred in the past 20 years are quite remarkable. At the end of 1929, which was a top year in railroad earnings, Class I roads reported net current assets of $517 million, a total which did not include $277 million of tax liability. The net position, as we now calculate it, was $240 million, of which $71 million was short-term loans payable. Unmatured funded debt amounted to $11.5 billion. Fixed charges totaled $681 million. As of December 31, 1948, net current assets amounted to $1.6 billion, an increase of $1.4 billion from 1929; funded debt to $8.5 billion, a decrease of about $3 billion from 1929; and fixed charges to $425 million, a decrease of $255 million, about 40 per cent.

The change in position, 1929-1948—a $1.4 billion increase in net current assets, a $3 billion reduction of debt, and a 40 per cent cut in fixed charges—is quite a change for the better.

Funded debt of $8.5 billion consists of $6 billion of fixed debt, $1 billion of contingent interest issues, and $1.5 billion of equipment obligations. Aside from refunding and reorganization, there has been practically no mortgage debt issued in the past 10 years, even though the roads have spent $2.2 billion on additions and betterments during that period. Outstanding equipment obligations have increased sharply in recent years, but the increase of $1.003 billion in the past 10 years is more than balanced by $3.824 billion of additions and betterments. Thus $6 billion has been put into the properties in the last 10 years—an amount equivalent to about 80 per cent of fixed debt now outstanding.

Importance of Fixed-Charge Reduction

The reduction in fixed charges from $680 million to $425 million is a definite financial gain for the industry, but its significance is heightened by collateral data. In 1929 fixed charges were 2.8 times the amount of net current assets. In 1936 the combined balance sheet statement reported a net current deficit of $593 million, and a deficit of $833 million including tax liability. In that year, however, current liabilities included substantial amounts of interest and debt in default. In 1948 net current assets were four times the amount of fixed charges and if reserve funds above the line were included, the current ratio would be lifted to 4.47 times charges. In other words, net current assets would have paid interest charges for about four months in 1929, but in 1948 they were large enough to pay interest for four years.

Another measure of the importance of the reduction in fixed charges is the relationship between the per cent of operating revenues brought down to net railway operating income before federal income taxes and the ratio of fixed charges to operating revenues. In 1929 the rails carried 19.9 per cent of revenues down to adjusted net railway operating income. Fixed charges took 10.8 per cent. In 1936 the ratios were 17.9 per cent and 16.1 per cent. In 1948 they were 15.0 per cent and 4.4

*Mr. Uhrbrock, who is a railroad security analyst for the New York investment firm of Vilas & Hickey, presented this paper at the annual meeting of the National Federation of Financial Analysts Societies in New York on March 2. Other papers presented at that meeting were summarized in the Railway Age of March 4, page 61.

New York Central station at Yonkers, N. Y.

per cent. In other words, the changes in revenues and charges raised coverage of charges, from operation only, from 1.8 times in 1929 to 3.4 times in 1948.

Still another measure of the importance of the reduction in fixed charges is the relation to maintenance expenditures. In 1929, fixed charges were equivalent to 33 per cent of maintenance expenditures; in 1936 the ratio had increased to 43 per cent; but in 1948 it had declined to about 14 per cent. To put it another way, the rails on the basis of 1948 figures could cover fixed charges by a 14 per cent cut in maintenance. In 1929 it would have required a 33 per cent cut. The former is within reason—the latter impractical.

Complete figures for 1949 are not yet available. The results, because of the decrease in revenues attributable to strikes and inventory liquidation, will not be as good as 1948, but still vastly superior to 1929 or 1936, in many respects.

The reduction in funded debt has been brought about by reorganizations and by purchase of outstanding obligations by individual roads. The reduction in fixed charges may be attributed to both of these factors as well as to refunding of outstanding obligations by a large number of roads. The bulk of these reductions have occurred within the last 10 years, coinciding with the war period of high earnings. The industry as a whole has been most conservative in dividend disbursements, in many cases, I believe unduly so. During the past 10 years less than half of the $5.976 billion of net was passed along in the form of dividends. In addition to undistributed net income, the roads had a huge carry-through of cash from depreciation and amortization charges.

Effect of Dieselization

The most important development in the railroad industry in the past 10 years has been the development and rapid progress of Diesel-electric operation. This is not strictly a financial development in itself, but has had a definite effect on finances. The original cost is high—roughly $100-110 per horsepower. However, by replacing two, three or four steam locomotives, we find that savings in the cost of operation enable the Diesels to pay for themselves in three or four years. In some cases the time is much shorter, especially if substitution of Diesel-electric power enables a road to avoid costly road improvements. The savings from Diesel operations have been probably the most important factor in the industry's ability to offset the increased costs of wages and materials. The purchase of the Diesels has, in large measures, been responsible for the increase in equipment debt and the resultant increase in annual maturity run off.

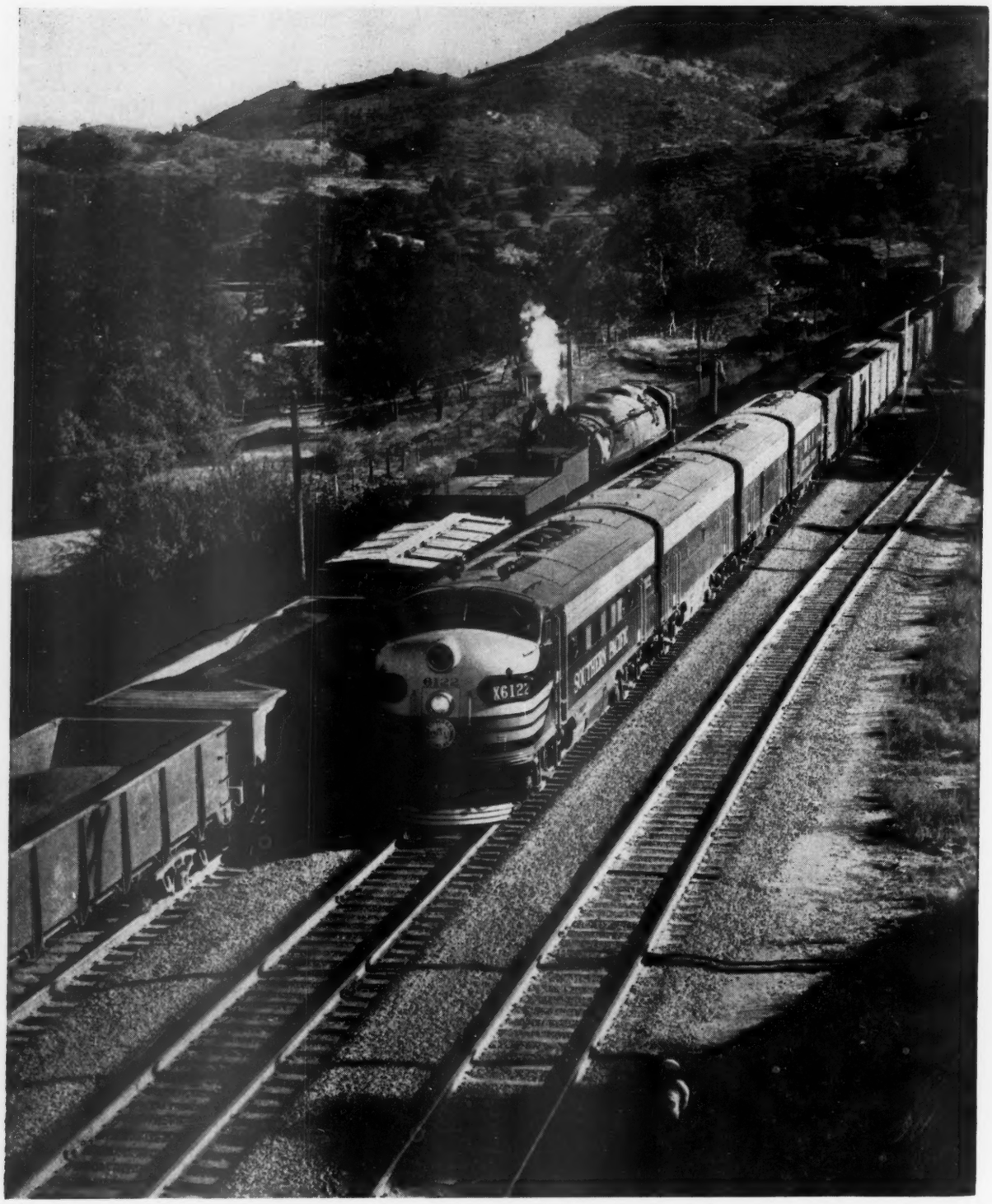
In the first 10 months of 1949, the railroads installed 1,557 Diesel locomotives as compared with 1,082 in the corresponding months of 1948. On November 1, 1949, there were 812 Diesels on order. Considering the decline in railroad earnings in 1949, this continued investment in power, along with other additions and betterments, is noteworthy. The record over a period of years has shown a close correlation between earnings and improvements. In 1949, gross additions and betterments were estimated at $1.3 billion, a shade above 1948 and almost 50 per cent above 1947. Net income in 1949 was about $260 million under 1948 and about $40 million under 1947. This divergence in the relationship between income and property improvement accounts in large measure for the decline in working capital in 1948-1949 of about $400 million.

Class I Railroads, (000,000 omitted) as of December 31

	1929	1936	1948	1949
Net current assets (1)	$ 240	$ D 33	$1,607	$ E 1,200
Fixed charges	680	653	425	422
Funded debt	11,467	11,240	8,522	
A.&B. road and struc. 10 prior yrs.	NA	2,890	2,212	
A.&B. equipment, 10 prior yrs.	NA	1 618	3,824	
Funded debt to oper. revenue	$1.83	$2.77	$0.88	
Fixed charges % maintenance	33.06%	42.78%	13.94%	
Fixed charges % net cur. assets	283.33%	435.65%	26.43%	
% Operations to net oper. inc. (2)	19.94%	17.94%	15.00%	
Fixed charges % oper. rev.	10.84%	16.12%	4.40%	

(1) Adjusted to include tax liability in current liabilities in 1929 and 1936 to conform with I.C.C. accounting subsequent to 1940.
(2) Before taxes.
D—Deficit E—Estimated NA—Not available

FORESTRY AND THE RAILROADS



RAILROADS AND THE FORESTS—The railroads, which wind their way through wooded areas all over the nation, have an interest in forest protection. Forest products provide a great portion of the freight in many sections of the country; and forest products are needed for crossties and other materials used in operation and maintenance

By **ROY PAUL NELSON**
Assistant Editorial Director,
American Forest Products Industries

The Soil Conservation Service of the Department of Agriculture recently pointed out that enough soil is washed and blown from fields each year to fill a train of freight cars long enough to circle the earth 19 times—but railroads will never get a ton of it to haul.

When we check into the causes of this erosion, we find instances of mismanagement of forest land and failure to protect wooded area from fire. Great strides have been made in recent years, however, by public and private organizations in furthering the cause of sound forest management, and, among industrial participants in the movement, it hasn't been only the lumber, pulp and paper groups which have been active. The nation's railroads are prominent in the field of forestry.

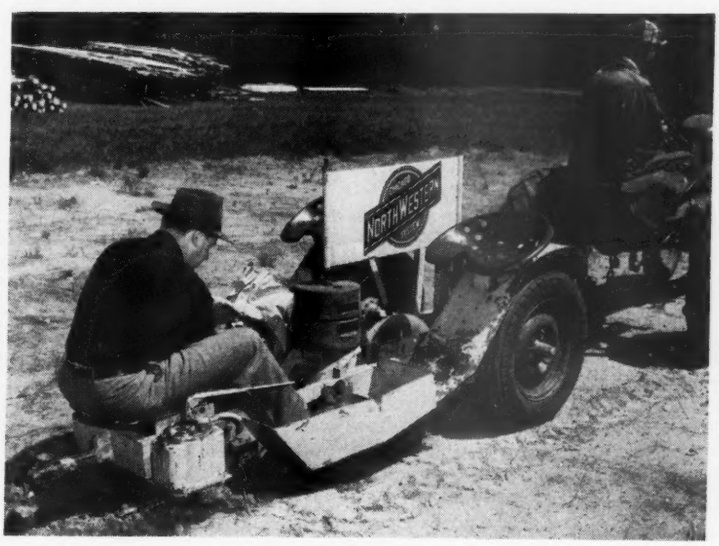
Few industries have as large a stake in the future of America's forests as the railroads. And, since the turn of the century when the Pennsylvania began planting trees along its right-of-way to combat soil erosion and insure a future crosstie supply, foresty has been an important consideration of the farsighted railway executive.

Railroads Are Timber Users

Railroads have a two-fold interest in perpetuating the nation's forests. In the first place forest products constitute a large portion of the freight in many sections of the country. Total tonnage of revenue freight originating in Oregon and Washington in 1948, for instance, was 37,620,000 tons, of which 58 per cent was forest products. Forest products make up one-third of all freight leaving the Louisiana-Mississippi area on the Illinois Central. On the Seaboard Air Line nearly 28 per cent of its freight volume was classed as forest products in 1947. A total of 3,230,057 cars of forest products originated on Class I railroads in the United States during 1947, accounting for 8.73 per cent of the total carloads. Gross revenue received was

TREE PLANTING MACHINES—Illinois Central Forestry Agent J. Walter Myers explaining the operation of one of the I. C. tree-planting machines to a group of Louisiana civic organization officers and forestry leaders

NORTHERN PACIFIC TREE FARM—A group of foresters and railroad men inspect a core taken from a ponderosa pine growing on one of the Northern Pacific's tree farms in Washington



TREE PLANTER—This Chicago & North Western tree planter was in operation in northwest Wisconsin. In the background is a jack pine forest from which materials in the center foreground (pulpwood and lumber) have been cut. The tract is adjacent to a demonstration forest being developed by the railroad

PLANTING PINE SEEDLINGS (left)—Two members of a hand planting crew plant pine seedlings in the Collier county, Fla., property of the Atlantic Land & Improvement Co., a subsidiary of the Atlantic Coast Line. FIRE BREAK (right)—A fire-break plow opening a furrow as a fire barrier along a railroad line

$620,344,963, or 10.54 per cent of the total freight revenue for all carload traffic.

Another reason for the railroads' interest in forestry stems from the fact that they are among the nation's top wood users. During 1947 Class I railroads expended $171,592,000 for crossties, piling, switch ties and other wood products. Of paramount importance to railroads is the crosstie. During the last 50 years more than 2,500 patents have been issued for ties of other materials, but none of these substitutes has been able to match wood's strength, elasticity, resistance to shock, and electrical insulating properties essential to the operation of automatic block signal systems.

But crossties wear out and must be replaced. In 1948, 36,842,084 crossties were laid in replacement by Class I roads, and of the replacements, 36,570,933 were new wooden ties. The industry is constantly on the alert for more effective means of prolonging crosstie longevity. The most recent development is the discovery of a new method of treating wood in which seasoning and creosoting can be done in one operation. Wood preservation and wood technology are part of the forestry programs of the nation's railroads. The Association of American Railroads, in cooperation with American and Canadian lumber industries, is in back of the crosstie project carried on in the laboratories of the Timber Engineering Company, Washington, D. C.

The first instance known to the writer of the hiring by a railroad of a trained forester was in 1906, when the Pennsylvania set up an office to oversee its reforestation program and to manage its timberland holdings. Today there are more than 20 full-time professional foresters employed by major railroads with trained staffs assisting in the cooperative assignment of protecting America's forest resources. Here are some of the ways in which the railroads are helping to further the cause of forestry:

Fire Prevention—The law requires that railroads maintain screens in locomotive stacks and limit the size of ash pan openings. In addition to complying with this, most railroads construct fire breaks and make provision for keeping their rights-of-way clear of tinder-dry brush. During fire seasons trains are followed by speeder patrols looking for sparks which may have been thrown out. The Chicago & North Western, in cooperation with the Ohio Coal Association, conducts tests to determine which coals can be used most safely during periods of high fire hazard. Several railroads are active supporters of the "Keep America Green" program being carried out in 26 states under the national sponsorship of American Forest Products Industries, a non-profit forestry education organization.

Tree Planting — The Illinois Central has developed a tree planting machine designed by forestry agents William M. May and John Guthrie to faciliate artificial reforestation in the area it serves. Last fall there were 8 I.C. planters at work in Louisiana and 15 in Mississippi. The Chicago & North Western, too, operates a tree planter, drawing up a schedule for it each fall and spring. The unit, mounted on rubber tires, is hauled like a trailer behind cars for use by farmers and other small landowners in Michigan. Minnesota and Wisconsin.

Tree Farms—The Northern Pacific has five tree farms embracing a third of a million acres certified

under the American Tree Farm System as land where good forest practices are employed. One of these farms, a 132,000-acre tract in Washington along the slopes of the Cascade mountains, can yield at least 12 million board feet of timber a year under Northern Pacific's management plan without upsetting the favorable balance of forest growth and drain. The Atlantic Coast Line owns a 76,000-acre tree farm in Florida. Though not owning lands actually certified as tree farms, the Southern Pacific and other railroads also manage their timberland holdings scientifically with an eye on future timber production as well as present forest yield.

Demonstration Forests—Thought to be the first large tract of forest land where conservation management was carried on by a railroad, the Lincoln Green Demonstration Forest is listed as South Carolina Tree Farm No. 30. This 14,000-acre model forest was set up by the Southern in 1925. The forest is open to the public to demonstrate what good forest management can do for a wooded area. The Central of Georgia, in cooperation with the Alabama Polytechnic Institute, has set aside a timber area as a demonstration of management for students at Auburn, Ala. Through its shelterbelt demonstration plantings in its Western territory, the Chicago & North Western recently induced a commercial manufacturer to fabricate a planter suited to prairie conditions.

Forestry Training—Gulf, Mobile & Ohio does not employ trained foresters, but it endeavors to implement work of foresters employed by federal, state and private agencies through its statewide farm woodland improvement projects. The company supplies $1,000 in prize money for both white and negro 4-H forestry program in Mississippi, in cooperation with the extension service. In Tennessee, the G.M.&O. puts up $300 for a similar project for negro youth, with civic organizations supplementing prize money in the various counties.

Rotary, Lions and Kiwanis Clubs have been cooperating with the company in other woodland improvement projects. Illinois Central forestry agents have been active in conducting short forestry courses in high schools, junior colleges and summer camps in the area served by the railroad. The Seaboard Air Line has done a great deal of work with farm youth groups, farmers and state and federal organizations in furthering forestry programs in the southern states served by that line.

Forest conservation and transportation are interdependent. The advancement of one contributes to the progress of the other. Railroads are showing an increased interest in forestry. The foresters they employ, together with the men and women in related departments, work not only with their respective railroads but also with the people in the communities through which their lines pass. They know that well-stocked, properly managed woodlands mean prosperous communities, and prosperous communities mean more business for the railroads.

OPEN LETTER ON FREIGHT RATES

[W. C. Tremear, a sugar broker in Indianapolis, Ind., became so disturbed at the increasing diversion of sugar tonnage to trucks and barges that he prepared and had mimeographed the following open letter which he sent to traffic and other officers of the trunk line carriers:]

"This is an open letter, addressed to all the major railroads of the country. It concerns a problem which is purely local with me, but which I am sure is of great interest and concern to all of you, as well.

"We are small sugar brokers, operating in a small territory, within 100 miles of Indianapolis. We are friends of the railroads, and believe that you are the most logical and economical carriers of heavy commodities, such as sugar. But you have reached—and passed—the point of diminishing returns in rates. The basing rate on sugar to Indianapolis is the New Orleans all-rail, 80,000-lb. minimum, of 66 cents, which builds up to 70 cents per 100-lb. bag, including transportation tax, and less the usual sugar discount of 2 per cent on net weight.

"We are beset with all sorts of truck competition: private trucks, which, under the subterfuge of ownership of the sugar, operate as public carriers, and public carriers which charge less than railroad rates, and deliver in smaller quantities. The service cannot compare with rail in dependability nor in providing service-when-wanted, but sugar is handled on such a close margin of profit that delivered price is all-important to the buyer, and to get one thing (lower price) he is inclined to give up all else.

"In addition to this long-distance truck competition, there is also water-and-truck movement, using the Mississippi and Ohio rivers to Evansville, Louisville and Cincinnati. Rates to New Albany, Ind., (Louisville) are about 42 cents plus a small dockage charge, and there are trucks hauling from 60 to 120 miles for 10 to 20 cents per 100 lb. In some cases buyers as far away as 100 miles are hauling with their own trucks.

"This is not a good method of transporting sugar for the legitimate carload buyer of sugar, but neither is it good for the railroads to charge 70 cents a 100 lb. for a service which is being performed for much less. I would venture to say that 35 per cent of the sugar entering Indiana comes by truck from Boston, New York, Philadelphia, Baltimore and New Orleans, and from New Orleans via waterways and trucks. This figure may be liberal, but we believe it is close. And the percentage is fast increasing. This traffic belongs on the rails—not on the public highways.

"It seems to me that it would be better for the railroads to haul 100 per cent of the tonnage for 60 cents a 100 lb. (using an arbitrary figure) than 65 per cent at 70 cents. And bear this in mind: your share of the business at 70 cents is constantly decreasing. I am a babe in the railroad woods. I don't know of any other way than this to present my story and yours. Maybe if I scatter enough seeds I will get a few sprouts. I would be glad to receive any comments any of you may care to make.

W. C. Tremear"

January Purchases and Orders Total $193 Million

anuary, 1950, purchases of materials, supplies and fuel, plus equipment orders, totaled $192,745,000. This is about $5 million above the comparable figure for January, 1949, despite a considerable decline in expenditures for fuel. Equipment orders accounted for this rise, with the 1950 commitments being almost ten times those of the same month last year. Rail purchases also were up considerably from January, 1949.

Purchases of manufactured articles show a not inconsiderable rise over expenditures in this category in the latter months of 1949, with the January, 1950, figure about 15 per cent above December, 1949's $64,560,000. Purchases of miscellaneous material also were up about 8 per cent for the same months.

Equipment orders in January of this year totaled an estimated $72,586,000. This includes $46,925,000 for 9,385 freight cars, $385,300 for three Budd rail Diesel cars and $25,276,000 for 179 Diesel-electric locomotives.

Inventories continued the decline begun about last mid-year, dropping to $725,521,000 as of January, a decline of 16 per cent since February 1, 1949.

1950 RAILWAY PURCHASES*

	January 1950 (000)	January 1949 (000)
Equipment**	$72,586	$7,372
Rail	9,288	7,361
Crossties	3,545	7,859
Other Material	61,133	99,641
Total from Manufacturers	$146,552	$122,233
Fuel	46,193	65,089
Grand Total	$192,745	$187,322

*Subject to revision
**Amount placed on order

JANUARY* PURCHASES OF MANUFACTURED GOODS (Excl. Equip. & Fuel)

Year	Jan. '50 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '50 Compared to Other Months '49 (000) Amt.	% Change
1944	$78,305	— 6	Feb. '49	$109,317	— 32
1945	77,944	— 5	Apr. '49	111,742	— 34
1946	77,855	— 5	June '49	103,429	— 28
1947	97,962	— 24	Aug. '49	89,056	— 17
1948	102,136	— 28	Oct. '49	69,861	+ 6
1949	114,861	— 36	Dec. '49	64,560	+ 15
1950	73,966		Jan. '50	73,966	

JANUARY* PURCHASES OF RAIL

Year	Jan. '50 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '50 Compared to Other Months '49 (000) Amt.	% Change
1944	$6,423	+ 45	Feb. '49	$8,637	+ 8
1945	5,734	+ 62	Apr. '49	10,818	— 14
1946	5,089	+ 83	June '49	9,997	— 7
1947	7,723	+ 20	Aug. '49	10,257	— 9
1948	7,547	+ 23	Oct. '49	2,856	+225
1949	7,361	+ 26	Dec. '49	3,875	+140
1950	9,288		Jan. '50	9,288	

JANUARY* PURCHASES OF CROSSTIES

Year	Jan. '50 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '50 Compared to Other Months '49 (000) Amt.	% Change
1944	$6,895	— 49	Feb. '49	$7,095	— 50
1945	5,601	— 37	Apr. '49	8,159	— 57
1946	5,822	— 39	June '49	8,600	— 59
1947	7,421	— 52	Aug. '49	8,111	— 56
1948	5,630	— 37	Oct. '49	5,238	— 32
1949	7,859	— 55	Dec. '49	4,095	— 13
1950	3,545		Jan. '50	3,545	

*Subject to revision

JANUARY* PURCHASES OF OTHER MATERIAL

Year	Jan. '50 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '50 Compared to Other Months '49 (000) Amt.	% Change
1944	$64,987	— 6	Feb. '49	$93,585	— 35
1945	66,609	— 8	Apr. '49	92,765	— 34
1946	66,944	— 9	June '49	84,832	— 28
1947	82,818	— 26	Aug. '49	70,688	— 14
1948	88,959	— 31	Oct. '49	61,767	— 1
1949	99,641	— 39	Dec. '49	56,590	+ 8
1950	61,133		Jan. '50	61,133	

JANUARY* PURCHASES OF FUEL

Year	Jan. '50 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '50 Compared to Other Months '49 (000) Amt.	% Change
1944	$50,341	— 8	Feb. '49	$57,530	— 20
1945	47,826	— 3	Apr. '49	49,848	— 7
1946	51,312	— 10	June '49	45,403	+ 2
1947	59,602	— 22	Aug. '49	40,743	+ 13
1948	73,468	— 37	Oct. '49	31,802	+ 45
1949	65,089	— 29	Dec. '49	47,283	— 2
1950	46,193		Jan. '50	46,193	

JANUARY* TOTAL PURCHASES (Excl. Equip.)

Year	Jan. '50 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '50 Compared to Other Months '49 (000) Amt.	% Change
1944	$128,646	— 7	Feb. '49	$166,847	— 28
1945	125,770	— 4	Apr. '49	161,590	— 26
1946	129,167	— 7	June '49	148,832	— 19
1947	157,564	— 24	Aug. '49	129,799	— 7
1948	175,604	— 32	Oct. '49	101,663	+ 18
1949	179,950	— 33	Dec. '49	111,843	+ 7
1950	120,159		Jan. '50	120,159	

JANUARY* INVENTORIES OF RAIL

Jan. '50 Compared to Other Jans. (000)			Jan. '50 Compared to Other Months '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1944	$22,342	+ 43	Feb. 1, '49	$36,408	— 12
1945	24,292	+ 31	Apr. 1, '49	42,681	— 25
1946	24,840	+ 29	June 1, '49	38,365	— 17
1947	30,192	+ 6	Aug. 1, '49	37,162	— 14
1948	32,924	— 3	Oct. 1, '49	37,475	— 15
1949	33,243	— 4	Dec. 1, '49	32,197	— 1
1950	31,926		Jan. 1, '50	31,926	

JANUARY* INVENTORIES OF CROSSTIES

Jan. '50 Compared to Other Jans. (000)			Jan. '50 Compared to Other Months '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1944	$67,964	+ 49	Feb. 1, '49	$94,164	+ 8
1945	72,434	+ 40	Apr. 1, '49	101,987	— 1
1946	72,519	+ 40	June 1, '49	94,615	+ 7
1947	83,891	+ 22	Aug. 1, '49	92,476	+ 10
1948	92,300	+ 10	Oct. 1, '49	96,515	+ 5
1949	94,256	+ 8	Dec. 1, '49	99,018	+ 2
1950	101,394		Jan. 1, '50	101,394	

JANUARY* INVENTORIES OF OTHER MATERIAL

Jan. '50 Compared to Other Jans. (000)			Jan. '50 Compared to Other Months '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1944	$382,566	+ 38	Feb. 1, '49	$626,423	— 16
1945	437,575	+ 21	Apr. 1, '49	647,641	— 18
1946	435,326	+ 21	June 1, '49	634,929	— 17
1947	476,625	+ 11	Aug. 1, '49	613,685	— 14
1948	560,703	— 6	Oct. 1, '49	581,945	— 9
1949	611,864	— 14	Dec. 1, '49	546,185	— 3
1950	528,399		Jan. 1, '50	528,399	

JANUARY* INVENTORIES OF SCRAP

Jan. '50 Compared to Other Jans. (000)			Jan. '50 Compared to Other Months '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1944	$9,628	+ 54	Feb. 1, '49	$18,735	— 21
1945	10,155	+ 46	Apr. 1, '49	18,872	— 21
1946	11,258	+ 32	June 1, '49	16,877	— 12
1947	12,572	+ 18	Aug. 1, '49	15,939	— 7
1948	13,225	+ 12	Oct. 1, '49	16,053	— 7
1949	18,849	— 21	Dec. 1, '49	14,874	—
1950	14,874		Jan. 1, '50	14,874	

JANUARY* INVENTORIES OF FUEL

Jan. '50 Compared to Other Jans. (000)			Jan. '50 Compared to Other Months '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1944	$50,221	— 3	Feb. 1, '49	$91,831	— 47
1945	59,182	— 17	Apr. 1, '49	82,014	— 40
1946	51,816	— 6	June 1, '49	83,436	— 41
1947	49,873	— 2	Aug. 1, '49	75,954	— 36
1948	66,388	— 26	Oct. 1, '49	63,534	— 23
1949	96,900	— 50	Dec. 1, '49	51,872	— 6
1950	48,928		Jan. 1, '50	48,928	

JANUARY* TOTAL INVENTORIES†

Jan. '50 Compared to Other Jans. (000)			Jan. '50 Compared to Other Months '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1944	$532,721	+ 36	Feb. 1, '49	$867,561	— 16
1945	603,638	+ 20	Apr. 1, '49	893,195	— 19
1946	595,759	+ 22	June 1, '49	868,222	— 16
1947	653,153	+ 11	Aug. 1, '49	835,216	— 13
1948	765,540	— 5	Oct. 1, '49	795,522	— 9
1949	855,112	— 15	Dec. 1, '49	744,146	— 3
1950	725,521		Jan. 1, '50	725,521	

*Subject to revision

†All total inventory figures taken from I.C.C. statement M-125 for the month indicated.

A.A.R. REPORT ON 1949 PURCHASES

The annual summary of purchases of materials, supplies and fuel by Class I railroads in 1949 has been compiled by the Bureau of Railway Economics of the Association of American Railroads, and it appears herewith. The total of such expenditures last year was $1,641,406,000, according to the reports of the individual carriers to the bureau. (This figure compares with $1,664,616,000 estimated by *Railway Age* late in December and published in the 1950 Statistical and Outlook issue, January 7, 1950, page 215. The difference between this estimate and the final figures is $23,210,000, or 1.41 per cent.)

Expenditures in 1949 were 24.6 per cent under the 1948 total of $2,183,331,000. The decrease was distributed throughout the list of expenditures by categories, there being only some three or four exceptions to the trend; outstanding in showing an increase was the outlay for Diesel fuel oil.

The reduction that took place in the past calendar year as compared with 1948 and 1947 "can be attributed in part to the reduced level of railroad operations in 1949 and in part to some declines in prices of railroad fuel, materials and supplies during the year," the A.A.R. statement said. Expenditures in 1949, however, exceeded those made in each of the 23 years prior to 1947.

PURCHASES OF FUEL, MATERIAL AND SUPPLIES

Railways of Class I—Calendar Years 1949 and 1948

Item	1949	1948
Fuel:		
Bituminous coal	$318,642,000	$485,761,000
Anthracite coal	4,872,000	5,827,000
Fuel oil—Residual	90,723,000	203,927,000
Fuel oil—Diesel	132,474,000	117,983,000
Gasoline	8,475,000	8,969,000
All other (coke, wood, fuel for illumination)	8,973,000	10,573,000
Total fuel	$564,159,000	$833,040,000
Forest Products:		
Cross ties (treated & untreated)	$82,048,000	$87,916,000
Switch & bridge ties (treated & untr.) and timber	19,239,000	12,700,000
Lumber (equipment, rough and finished)	33,245,000	58,562,000
Other forest products	7,700,000	7,310,000
Total forest products	$142,232,000	$166,488,000

ANNUAL PURCHASES OF MATERIALS AND SUPPLIES (EXCLUDING EQUIPMENT) 1923-1949 — Class I Railroads

(Thousands of dollars)

Year	Fuel	Forest products	Iron and steel products	Miscellaneous	Total	Total less Fuel
1923	$617,800	$232,511	$464,955	$423,437	$1,738,703	$1,120,903
1924	471,656	180,872	365,610	324,917	1,343,055	871,399
1925	459,465	170,305	419,255	343,018	1,392,043	932,578
1926	473,354	186,291	507,302	392,085	1,559,032	1,085,678
1927	438,821	175,729	407,304	374,074	1,395,928	957,107
1928	384,608	160,794	374,575	351,364	1,271,341	886,733
1929	364,392	157,551	406,962	400,630	1,329,535	965,143
1930*	306,500	134,600	304,700	292,700	1,038,500	732,000
1931*	244,500	76,250	188,600	185,650	695,000	450,500
1932*	178,250	52,200	94,550	120,000	445,000	266,750
1933	180,526	42,442	104,327	138,555	465,850	285,324
1934	217,294	64,271	150,671	167,988	600,224	382,930
1935	232,723	57,367	135,397	167,538	593,025	360,302
1936	272,270	76,683	239,486	214,982	803,421	531,151
1937	294,293	104,707	310,658	256,725	966,383	672,090
1938	243,783	56,968	127,141	155,390	583,282	339,499
1939	257,273	69,971	236,338	205,732	769,314	512,041
1940	273,556	82,185	264,480	234,242	854,463	580,907
1941	349,765	103,771	379,951	327,787	1,161,274	811,509
1942	426,335	115,227	353,957	364,292	1,259,811	833,476
1943	527,296	150,255	339,631	377,099	1,394,281	866,985
1944	585,832	158,957	431,692	434,048	1,610,529	1,024,697
1945	555,155	136,962	418,438	461,849	1,572,404	1,017,249
1946	553,153	149,984	416,303	452,115	1,570,555	1,017,402
1947	691,630	171,592	503,965	542,022	1,909,209	1,217,579
1948	833,040	166,488	590,289	593,514	2,183,331	1,350,291
1949	564,159	142,232	454,079	480,936	1,641,406	1,077,247

*Railway Age estimates.

Note: "Iron & Steel products" and "Miscellaneous," 1927-1948, revised to conform with report MS-24, Year 1949.

Source: Reports of the carriers to the Bureau of Railway Economics.

Iron and Steel Products:		
Steel rail (new and second hand, except scrap)	$94,669,000	$100,073,000
Wheels, axles and tires	46,838,000	56,477,000
Frogs, switches and crossings, and parts of same	23,882,000	34,176,000
Track fastenings, track bolts, spikes, etc.	67,110,000	77,162,000
Iron bridges, turntables & struct. steel, all kinds	8,372,000	9,797,000
Bar iron & steel, spring steel, tool steel, unfabricated rolled shapes, wire netting & chain, except light coil; boiler, firebox, tank, & sheet iron & steel, all kinds	33,883,000	54,173,000
Forgings and pressed steel parts for locomotives	4,173,000	6,331,000
Car forgings, iron & steel, and fabricated or shaped steel, for passenger and freight cars	21,932,000	32,491,000
Flues & tubes for locos. & stationary boilers	5,941,000	7,826,000
Bolts, nuts, washers, rivets, lag screws, pins & studs	9,841,000	16,698,000
Springs, helical and elliptical, all kinds for locomotives and cars	4,229,000	5,634,000
Locomotive and car castings, beams, couplers, frames and car roofs	57,969,000	95,063,000
Track and roadway tools, all kinds, miscellaneous track material and wire fencing. Motor, hand, push & velocipede cars, and parts for same	12,843,000	16,683,000
Machinery and repair parts	24,869,000	12,513,000
Boilers, and all other iron and steel products including pig iron	6,239,000	26,749,000
Pipe, iron & steel, and fittings, all kinds	7,923,000	12,495,000
Hardware, all kinds, including nails	6,395,000	8,458,000
Hand & small machine tools, such as drills, taps, reamers, dies, chasers. including air tools & parts	11,658,000	17,490,000
All other iron and steel products	5,313,000	—
Total iron and steel products	$454,079,000	$590,289,000
Miscellaneous:		
Cement	$3,485,000	$4,744,000
Lubrication oils and grease; illuminating oils; boiler compound; waste	33,740,000	42,754,000
Non-ferrous metal & non-ferrous metal products	32,397,000	48,880,000
Ballast	19,571,000	22,870,000
Electrical materials including electrical material for Diesel locomotives	43,791,000	47,852,000
Stationery and printing	28,929,000	33,792,000
Commissary supplies for dining cars & restaurants	42,836,000	53,940,000
Rubber and leather goods	9,844,000	13,286,000
Glass, drugs, chemicals including chemicals for timber treatment; painters' supplies	42,315,000	53,175,000
Arch brick for locomotives	3,623,000	5,187,000
Passenger car trimmings	12,867,000	18,899,000
Locomotive, train and station supplies	22,882,000	32,819,000
Interlocking and signal material	39,046,000	47,396,000
Telegraph, telephone and radio material	9,853,000	15,068,000
Air brake material	20,841,000	30,183,000
Standard & spec'l mechanical appliances for locos.	13,375,000	20,290,000
Automotive equip. & supplies, except Diesel elec.	19,736,000	43,386,000
Diesel locomotive material — not electrical	37,863,000	
All other miscellaneous purchases	43,942,000	58,993,000
Total miscellaneous purchases	$480,936,000	$593,514,000
Grand Total	$1,641,406,000	$2,183,331,000

Source: Reports of the carriers to the Bureau of Railway Economics.

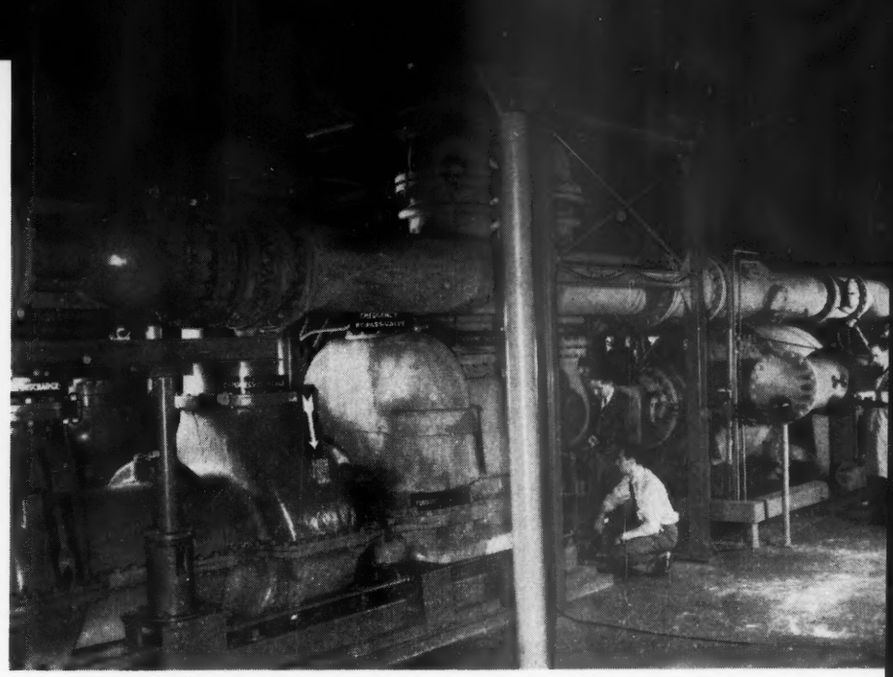
New Book . . .

WORKING ON THE RAILROAD, by O. H. Kirkpatrick. 300 pages. 5⅜ in. by 8 in. Bound in cloth. Published by Dorrance & Co., Drexel Bldg., Philadelphia 6, Pa.

What would appear, by its title, to be the biography of a railroader, turns out to be a series of interesting historical essays, written about everything from inspection trips by "brass hats" to a genius called "Shorty" who could play with a local freight like Horowitz can play the piano. Mr. Kirkpatrick, who started in to help his station-agent father at the age of six and was a good telegrapher before he had to shave, sticks pretty close to railroading of the 19th century. He is at his best when he relies on his own memory, and at his worst when he tries to rehash generalities from books. He left railroading in 1903, when he was 25 year old, but his impressions of the business—in which he had a wide experience—have remained vivid and alive.

The most interesting chapters of the book concern the circus which came to town and behaved like "the man who came to dinner"; a dapper division superintendent called "Old Whiskers"; the manner in which men switched cars with link-and-pin couplers; and his version of the origin of the expression "O.K.".

A review of steps in the Locomotive Development Committee's progress toward a coal-burning gas-turbine locomotive, including components development, full-scale component tests, and the present Houdry turbine installation, located at Dunkirk, N. Y.



The Allis-Chalmers Houdry process coal-burning gas-turbine installation at the Dunkirk, N. Y., plant of the American Locomotive Company. F. D. Buckley (standing, center) is the manager of this installation

The Experimental Coal-Burning Gas Turbine

By JOHN I. YELLOTT
Director of Research, Locomotive Development Committee†

The most pressing need for a coal-burning gas-turbine power plant is in the locomotive field, where bituminous coal continues to be the cheapest fuel. Since 1945, coal's cost per million B.t.u. has risen from 12 cents to approximately 18 cents, while Diesel oil has climbed from 50 cents to 69 cents per million B.t.u. The cost of residual oil has fluctuated widely, and for the western roads, but not the eastern, it has frequently been cheaper than coal. The cost of the fuel required to pull a train depends as much upon the thermal efficiency of the locomotive as upon the price of fuel. Coal was formerly cheap enough to compensate for the low efficiency of the steam locomotive, and even today a few roads can show that steam is still their most economical motive power. In most cases, however, the highly efficient Diesel-electric locomotive shows large savings over steam equipment. The gas turbine, because of its ability to use low-cost fuels with good efficiency, is a formidable competitor of the Diesel-electric locomotive for road service. Except at idling, the coal-burning gas-turbine locomotive is expected to cost much less to operate than any of its competitors.

In road service where the average load is 60 to 75 per cent of full power, the coal-burning turbine should save $12 to $15 per hour over the Diesel's fuel cost. An annual fuel saving in the order of $50,000 per locomotive can be expected at present fuel prices. This is the economic justification for the eastern railroads' efforts to develop the coal-burning gas turbine. More broadly, the vastly greater worldwide coal reserves, as compared with oil, give long-range significance to the program of the Locomotive Development Committee of Bituminous Coal Research, Inc.

An abstract of a paper presented before the Midwest Power Conference at Chicago on April 7.

†The Locomotive Development Committee is composed of the chief executive officers of the Baltimore & Ohio; Chesapeake & Ohio; Illinois Central; Louisville & Nashville; New York Central; Norfolk & Western; Pennsylvania; Virginian; New York, Chicago & St. Louis; the M. A. Hanna Company; Island Creek Coal Company; Pocahontas Fuel Company; Pittsburgh Consolidation Coal Company; and the Sinclair Coal Company. Roy B. White, president of the B. & O., has been chairman of the committee since its formation in 1944.

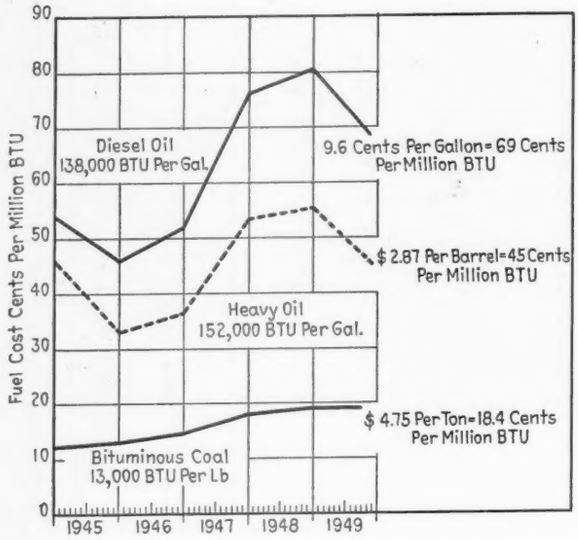
Small-Scale Component Development

The coal-burning gas-turbine plant is the result of four years of work, during which all of the necessary components were first tested on a small scale at atmospheric pressure. Simultaneous attacks were made upon the problems of coal handling, combustion, and ash removal.

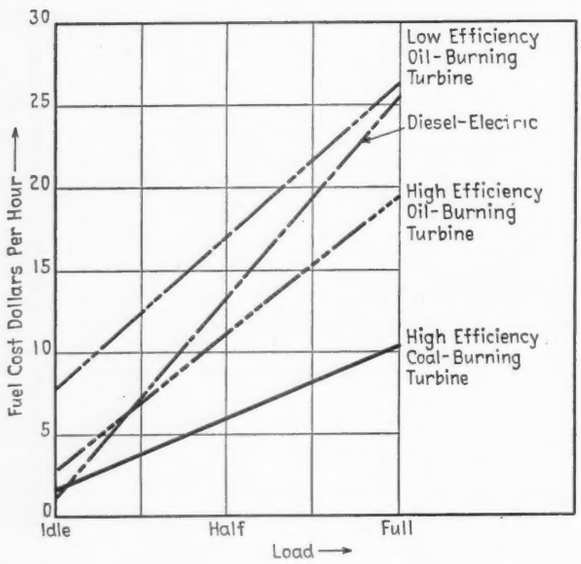
[The author here described the various research projects, the results of which have led to the present status of the locomotive equipment. These included the study of preparation, pressurizing, pulverizing and combustion on a small scale at Johns Hopkins University; a study of combustion at atmospheric and elevated pressures at Battelle Memorial Institute[1]; a study of the fly-ash problem[2], methods of improving performance of the coal atomizer, partial gasification of coal, and pressurizing finely crushed coal all at the Institute of Gas Technology at Chicago. The effect of sulphur in coal on stainless steel was investigated at Purdue University (no measurable effect was found on

[1]"Experimental Combustion of Pulverized Coal at Atmospheric and Elevated Pressures," by H. R. Hazard and F. D. Buckley, Transactions of the American Society of Mechanical Engineers, August, 1948.

[2]"Studies on Fly-Ash Erosion," Fisher and Davis, Mechanical Engineering, June, 1949, page 481.



Above—Average fuel prices reported to I.C.C. by three eastern railroads showing variations since 1945. Below—Variations of fuel cost per hour with the load—4,500-hp. gas-turbine locomotive



the gas-turbine conditions up to 1,800 deg. F.). Southern Research Institute developed an air-balanced device for determining feed rates from a pulverized coal tank.—Editor.]

By mid-1946 a pilot plant had been installed at the Dunkirk, N. Y., plant of the Alco Products Division of American Locomotive Company, where coal could be burned under pressures as high as 60 lb. per sq. in. gage at rates up to 1,000 lb. per hour.[3] A larger version of the Johns Hopkins coal system was constructed, using a Standard Stoker piston coal pump to pressurize the coal.

[3]"The Coal-Burning Gas-Turbine Locomotive," by J. I. Yellott, C. F. Kottcamp and P. R. Broadley, 1947 annual meeting, American Society of Mechanical Engineers. Abstracted in January 31, 1948, Railway Age, page 254.

Feeding of crushed coal from the pressurized storage tank was accomplished by the use of a variable-speed screw. A coal atomizer was used for pulverization. Shop air at rates up to 1,000 lb. per min. was available to burn the coal, cool the combustor, and chill the ash. A battery of small centrifugal separators removed most of the fly ash before the heated air was released through a pressure-reducing valve and allowed to pass through a turbosupercharger to determine the effect of the remaining ash upon high-speed turbine blades.

Operation of the pilot plant disclosed a number of major problems which had not been discovered in small-scale operation at atmospheric pressure. Most serious was the fact that, with 90 per cent combustion efficiency, the best then obtainable with cold-wall combustors, the carbon remaining in the ash burned vigorously in the fly-ash separators. In a ceramic-wall slagging combustor, in which efficiency of combustion consistently approached 98 per cent, about half of the ash appeared as slag in lumps of moderate size. The remaining fly wash was sufficiently low in carbon content to be harmless to the fly-ash separators.

Work is continuing on an atmospheric-pressure, full-scale, horizontal ceramic combustor. For low-ash-fusion and low-volatile coals the ceramic tube shows considerable promise. The all-metal combustor will be used, however, in the first tests of the actual locomotive power plant.

Full-Scale Tests of Components

Small-scale, low-pressure tests showed the necessity of working with full-scale equipment under actual gas-turbine conditions. This phase of the work was undertaken in conjunction with the Turbodyne Corporation, a subsidiary of Northrop Aircraft, at the Kaiser steel mill, Fontana, Cal.

During the summer of 1947 coal-handling equipment of locomotive size was installed at Fontana. Coal from a locomotive stoker was fed through a hammer mill and a slide-valve lock hopper into a large, high-pressure tank. The system was first operated under pressure in December, 1947, and in the months which followed it became evident that film-cooled metal combustors could be used with acceptable range, efficiency and life.

Feeding from a pressurized tank appeared to be impractical on a large scale, and, consequently, an attack was made on the problem of continuously pressurizing finely crushed coal. A rotary pump was developed in which extremely close clearances were maintained by a refined mechanical design. Such a pump proved practical for transferring coal from an atmospheric pressure source into a line at pressures up to 140 lb. per sq. in.

Two-Stage Ash Removal

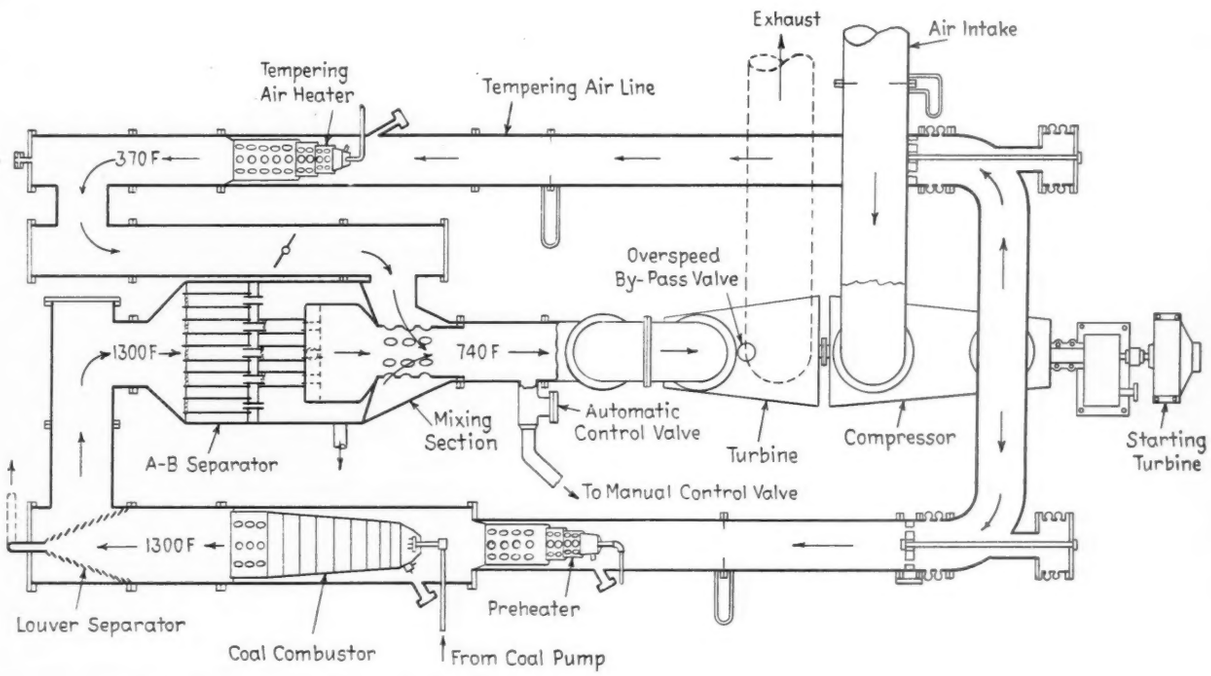
Because of the extremely wide size range of the ash particles, it was found necessary to use a two-stage ash-removal system. A louver separator was used as the first stage to concentrate the large particles of ash into a small quantity of flowing air, which was then blown down to atmospheric pressure through an aspirating nozzle. The quenching of the incandescent ash particles by the aspirated cold air prevented the burning of the separator on this blow-down line.

As a second stage of fly-ash removal, a battery of small cylindrical separator tubes of the straight-through type was employed. These tubes caused most of the dust to be removed by imparting a vigorous spin to the air and dust and drawing off the concentrated solid particles in a small secondary stream of air. Again, the continuous blow-down method was used to dispose of this dust. Extensive tests of the ash removal system indicated that very few particles larger than 20 microns in diameter were getting through the system.

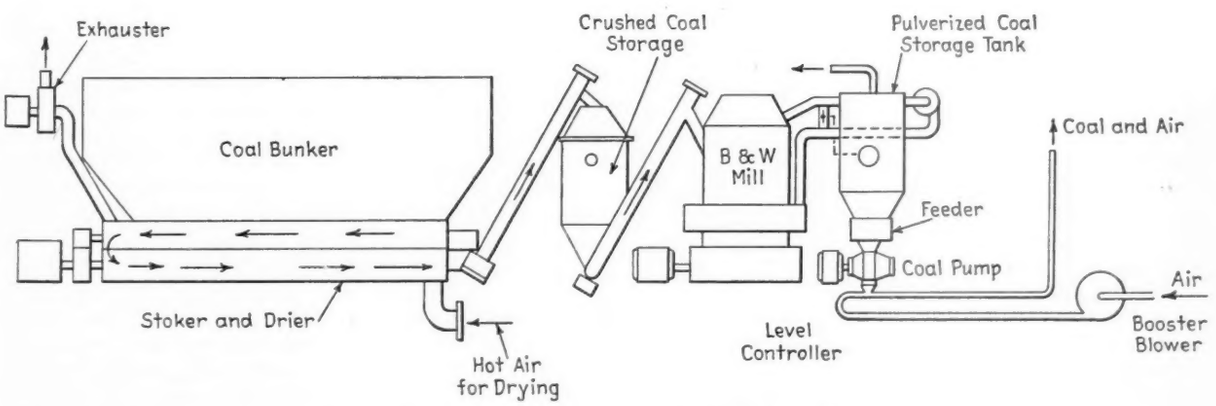
The Houdry Turbine at Dunkirk

The United States Bureau of Mines made available to the committee a Houdry-process gas-turbine plant, originally destined for a Russian oil refinery. The air compressor of the Houdry unit takes air from the atmosphere through a metering section and a silencer. The discharge of the compressor is divided into two lines, one of which contains the coal combustion system and the fly-ash separators. The other line contains an oil-burning system, so that the unit may be started on oil and then transferred to coal. One of the illustrations is a plan of the arrangement.

To simulate the performance of one of the twin combustors which will be used with the 4,200-hp. locomotive turbine, the air flow from the compressor can be divided so that approximately 93,000 lb. per hour will pass through the coal side, while the remaining 113,000 lb. passes through the oil side. An oil-fired air preheater is also installed on the coal side, to provide the temperature rise which will be encountered in the



Arrangement of the combustion and ash-separation equipment at the Dunkirk Houdry gas-turbine installation



The coal-supply system which will be installed on the Locomotive De velopment Committee's gas-turbine locomotive

regenerator of the locomotive gas turbine. The coal-burning and ash-removal equipment is made entirely of stainless steel, so that it can be safely operated at 1,300 deg. F.

The coal-burning combustor currently in use at Dunkirk consists of telescoping cylindrical sections of stainless steel, ⅛ in. thick, supported by external girders. A riveted construction was originally employed, but was replaced because of the building up of ash deposits in the wake of each rivet. Combustor cooling is accomplished by admission of air at slots between adjoining rings. Mixing of excess air with the products of combustion takes place through large holes in the last 30 in. of combustor length.

Admission of coal to film-cooled combustors has received much study, and the burner currently in use is a Dunkirk modification of a multi-jet device originally used at Battelle Institute. The combustion efficiency obtained with this arrangement has consistently exceeded 95 per cent. Coal has been burned in this combustor at rates up to 1,800 lb. per hour. After a continuous test of 32 hours, the combustor was found to be relatively clean and completely undistorted. Development is going forward to improve this type of combustor, so the gas turbine can be operated on coal without need for an oil pilot flame.

The louver separator which forms the first stage of the ash-removal equipment, also built by Turbodyne, has withstood several hundred hours of operation without any visible deterioration. It removes approximately 50 per cent of the solids contained in the combustion products, and also effectively eliminates stratification in the heated air leaving the combustor.

Final removal of the fly ash is accomplished by a battery of 18 American Blower Type ST separators. Approximately 90 per cent of the 20,000 cu. ft. per min. discharge from the combustor passes directly through the tubes, transferring most of the remaining dust into approximately 10 per cent of the air stream which passes through the secondary tubes. This dust is concentrated again into approximately one per cent of the original air stream, which is then blown down through a small nozzle. The remaining nine per cent, containing fine dust not removed in the secondary collection system, can be readmitted to the main stream as it passes toward the turbine.

Mixing relatively cool air from the oil-heater side with the 1,300 deg. F. flow from the coal-burning equipment is accomplished by a mixing zone which is virtually the same as the cooling section at the end of the combuster.

At a firing rate of 1,800 lb. of coal per hour, the heat release is approximately 750,000 B.t.u. per hour per cu. ft., or 6,000,000 B.t.u. per hour per sq. ft. of cross-section area. Under these conditions, the combustor runs relatively cool and clean. There has been very little slagging in the combustor, and virtually all of the ash appears as a fine dry powder suspended in the combustion products.

Coal Preparation Equipment

The coal for the Houdry gas-turbine plant is provided, first, by an Iron Fireman stoker which supplies coal in minus 2-in. lumps to a Whiting high-speed impact mill which includes a fan and a classifier. The fine coal, 97 per cent —100 mesh, flows with the conveying air upward through an 8-in. pipe into a coal separator in the top of the pulverized coal-storage tank. This separator is a combination of two American Blower Type ST 361 tubes and a louver. The cleaned air is returned to the pulverizer. The vented air, always required in a closed circuit system, is the secondary flow from the American Blower tubes. Make-up air is provided through an opening at the inlet of the pulverizer. The level of coal in the tank is controlled by a single Fuller rotary level indicator located just below the coal separator. This controller starts and stops the motor on the pulverizer feeder. The stoker operates in response to a level control on a small hopper from which the pulverizer feeder takes its supply.

Feeding of the coal is accomplished by a variable-speed drum feeder. The pulverized coal in the storage tank is highly aerated, and its bulk density is as low as 20 lb. per cu. ft. This coal is fluidized to such an extent that it will flow very readily through even the smallest crevices. Some difficulty has been encountered from leaks in the feeder, and this problem is still undergoing vigorous study.

The continuous pressurizing of the coal at whatever rate may be established by the feeder is accomplished by the rotary coal pump. It appears that the blow-through feature of the pump developed by the Turbodyne Corporation at Fontana is essential. The pulverized coal is carried from the bottom of the pump to the combustor by compressed air flowing in a 1¼-in. line.

Future Work with the Houdry Unit

The Houdry unit was installed for the dual purpose of demonstrating that coal can be successfully used as fuel for a full-scale gas turbine and as a research installation to permit development of improved coal-handling, combustion, and fly-ash-removal equipment. At present it is being operated as many hours as possible each week to determine the effect of the unremoved fine dust upon the blades of the turbine. After the first 150 hours of operation, inspection of the last row of blades, made by entering the turbine through the exhaust duct, indicated no damage whatsoever. A very thin layer of fine dust adheres to the blades, but there is no evidence of any impairment of the turbine performance. The Houdry turbine is operating at a temperature much lower than a power-generating gas turbine, and it will not be safe to conclude that the problems of ash removal are solved satisfactorily until a full-scale, full-temperature gas turbine has been operated on pulverized coal for thousands of hours.

It is the intention of the Locomotive Development Committee to push the project to completion as rapidly as possible. The first experimental locomotive will be composed of two units, with the power plant mounted on one and the coal preparation equipment, shown in one of the illustrations, on the other. The Allis-Chalmers 4,200-hp. gas-turbine power plant has undergone preliminary tests. It will be moved to Dunkirk soon for extensive stationary tests in an installation which will duplicate in every important particular the arrangement in the locomotive. If these tests are satisfactory, the power plant will be installed in a locomotive and extensive road tests undertaken.

GENERAL NEWS

Show How Air Lines Live on Subsidies

Alderman continues railroads' presentation to Senate group

Continuing the railroads' attack on subsidies enjoyed by competing agencies, Sidney S. Alderman, general counsel of the Southern, this week showed the Senate's subcommittee on domestic land and water transportation how the air transport industry has been sustained by government aids. Like the presentations of J. Carter Fort and Julius H. Parmelee, vice-presidents of the Association of American Railroads, which were reported in the *Railway Age* of April 8, page 51, Mr. Alderman's statement was made at public hearings that the subcommittee is conducting in connection with studies it is making pursuant to Senate Resolution 50.

Senator Myers, Democrat of Pennsylvania, is chairman of the subcommittee, which is a unit of the Senate committee on interstate and foreign commerce. Other members are Senator Johnson, Democrat of Colorado, who is chairman of the parent committee, and Senators Johnson, Democrat of Texas, Bricker of Ohio, and Capehart of Indiana, Republicans. The largest attendance of subcommittee members at hearing sessions held thus far has been two. Chairman Myers and Senator Bricker were on hand for the April 11 session, when Mr. Alderman appeared. At the previous session, Senator Bricker was the only member on hand, while Chairman Myers was alone at the hearing's opening session on April 4.

Makes Recommendations

Mr. Alderman recommended that provision should be made "immediately" for separation of mail-pay from subsidies paid to the air lines; that there should be fixed "reasonable" charges on a user basis for airways and airway services and airport and terminal services provided by the government; and that there should be "prompt abandonment" of those air routes and services which have "no hope of economic justification."

"There should," he concluded, "be a complete revision of the various conflicting and separate transportation policies now contained in federal statutes and administered by different agencies. There should be a new, integrated and coordinated national transportation policy applicable to all forms of transportation, surface and air, under which promotional and subsidy aids would not be furnished to any one form without the fullest consideration of the effect on other forms. That policy should contemplate the abandonment of all subsidies as rapidly as possible, so as to leave each form of transportation to compete with the others in a free and fair field and so as to give the public the benefit of the most efficient and economical form of transportation for each particular service. Congressional concern for promotion should be directed toward the whole transportation system, not to favored segments thereof."

Mr. Alderman's whole presentation was a comprehensive statement which reviewed the development of the commercial air transportation industry and of the government's subsidy policies in that field. He did not claim to be an "expert" on air transportation, but said he had devoted "several months' time" to a "careful study" of the situation in his role as a member of a subcommittee of the A.A.R.'s Law Committee which was organized to prepare the railroad industry's presentation to the Myers subcommittee.

Air Lines Have "Come of Age"

After referring to previous Congressional investigations and other recent studies dealing with commercial air transportation, Mr. Alderman addressed himself to this proposition: "The history and statistics of the air transport industry show a young giant come of age, nurtured, and still supported by subsidies, and now a vigorous competitor of the unsubsidized railroads."

He found that two acts passed by Congress in 1925 and 1926 "made the civilian air transportation industry possible." They were the Kelly Act of 1925 which authorized the Postmaster General to grant contracts for carrying air mail to private companies. This legislation, as Mr. Alderman put it, "allowed numerous private carriers to receive sufficient income from the carriage of mail to raise hopes that a combined mail, express, and passenger business would prove profitable."

Air Commerce Act

The 1926 legislation was the Air Commerce Act which, as Mr. Alderman summarized it, "inaugurated a program of providing civil airways, aids to navigation, and other subsidies for the encouragement of civil aviation . . ." Thus, private air carriers were relieved "of the necessity for large investments," Mr. Alderman continued, pointing out also that the 1926 act "increased the public confidence in flying by its provisions for safety regulations."

Then in turn came air-mail acts of the 'Thirties, the Civil Aeronautics Act of 1928, and the Federal Airport Act. As to the Aeronautics Act, Mr. Alderman

ICY BAPTISM FOR NEW ROTARY—The Union Pacific made its annual assault on the snowbound Yellowstone branch during the week of March 20, using three rotary plows, four locomotives and 20 other units of rolling stock for the four-day and three-night job. "Star of the assault," according to the U.P., was the "new Lima-Hamilton Diesel oil-burning rotary." The Lima-Hamilton plow, pushed by two 2-8-0 steam locomotives, is shown above, clearing an avenue through one of many drifts on the 56 mi. branch from Ashton, Idaho, to West Yellowstone, Mont.

noted how it "set out clearly the 'need theory' of air-mail rate-making by guaranteeing to the air-carrier 'compensation for the transportation of mail sufficient to insure the performance of such service . . . '" The result has been the rapid expansion of an industry "firmly entrenched on governmental subsidies," the Southern's general counsel continued. He gave figures indicating that the total network of domestic air routes increased from 8,252 route miles in 1926 to 68,674 route miles in 1948.

At its present rate of operations, he went on, the air-carrier industry performs annually 6.6 billion passenger-miles, nearly 70 million ton-miles of combined mail and express, and more than 100 million freight ton-miles of service. This indicated to Mr. Alderman that the air lines "have become very important competitors of the railroads." He pointed out that in the 12 months ended September 30, 1949, they did "substantially over one-fifth as much passenger business as all Class I railroads in the types of travel for which they compete." In the same period the ton-miles of air-mail was 10 times that of the calendar year 1935, while the air-freight volume was 6.4 times that of the calendar year 1946, the first full year of reported freight operations.

To show that the air-mail revenue has been of "increased importance" to the air lines in recent years, Mr. Alderman gave figures indicating that the 1949 ratio of air-mail revenue to gross revenue of the air lines was 13.9 per cent. The comparable figure for 1946 was 6.6 per cent. Air-mail revenue amounted to $20,981,542 in 1946; it was $68,570,000 for the 12 months ended September 30, 1949.

Mail Ton-Mile Rate Highest

The Southern's general counsel also called attention to the fact that the revenue per ton-mile from mail "is two and two-thirds times as much as revenue per ton-mile of passengers and eight times the revenue per ton-mile from freight." The respective figures for the 12 months ended last September 30 were $1.646; 60.6 cents and 19.6 cents. Other figures presented by Mr. Alderman showed that the air lines' net operating income amounted to $34,329,000 for the 12 months ended with September 30, 1949, the period during which they received $68,570,000 in mail pay.

As to the competition for passenger business, he noted that ratio of air-line revenue passenger-miles to passenger-miles performed in sleeping and parlor cars had risen from 9.1 per cent in 1939 to 67.4 per cent in 1949. "That the air lines carry two-thirds as many passengers as Pullman and parlor cars is irrefutable evidence that air transportation is no longer an infant industry," Mr. Alderman added.

He then turned to the federal airways system, noting that the subsidies there will have cost the government $513 million by next July, and "an additional $736 million by the mid-1960's." Airports are not a part of this system which includes markers, radio, radar aids to navigation, etc. "Traffic control services rendered by the federal airways," Mr. Alderman continued, "are comparable to railroad dispatching, interlocking, wayside signaling and automatic train control. . . . The functions of airways and railroad tracks are also analogous. . . . The railroads provide their own services and facilities and pay property taxes on them while the public pays for the airways system, which is used free of charge and free of tax by commercial air lines."

Revelle W. Brown (right), president of the Reading, congratulates John T. Whiting, president of the Alan Wood Steel Company, on the company's new 30-in. hot rolled strip mill, during the first public inspection of the plant on March 31. The mill is the first of its kind to be located in eastern Pennsylvania

He also mentioned the Weather Bureau's services to aviation, which cost an estimated $5.8 million in 1949, and are expected to cost $6.5 million and $7 million in 1950 and 1951, respectively. As to the airport program, he put the expenditures through 1944 at approximately $1,027,200,000, of which about 72.1 per cent represented federal funds. The total capital expenditures on airports since 1944 are not known, Mr. Alderman said, but he did have figures indicating that the total federal expenditures on civil airports, as of last February, had amounted to $817,084,309. He also noted that an additional $96,300,000 has been appropriated, but not yet paid out.

To contrast the situations as to air-line and railroad terminal facilities, Mr. Alderman presented figures indicating that the federal government experienced a direct out-of-pocket loss of $683,019 from its operations of the Washington National Airport in Washington, D. C., during the fiscal year ended June 30, 1948. The airport's gross revenues for the year amounted to $839,019, of which landing fees paid by the air lines amounted to only $120,424. Including other payments, such as rentals of office and hangar space, the air lines paid "about half" of the airport's total revenues, Mr. Alderman said. Meanwhile, he continued, the railroad station at Washington pays its own expenses; and, in 1948, it paid $287,862 in property taxes, $164,724 in income taxes, and $329,185 in interest "to private investors who financed its construction."

Returning to the air-mail subsidy, Mr. Alderman pointed out that the "remarkable provisions" of section 406(b) of the Civil Aeronautics Act makes this subsidy "a guaranty by the government that each air carrier, if not shown to be dishonestly, uneconomically and inefficiently managed, will earn its operating expenses and enough above to continue its development, or that the government will pay it enough in mail-pay to make up the difference." In other words, the act makes "the need of the individual air carrier, rather than the value of the service rendered, the measure of the mail pay . . ." From Secretary of Commerce Sawyer's recent report on transportation, Mr. Alderman quoted a statement calling the arrangement a "cost-plus system of subsidies under which the carriers are virtually guaranteed against bankruptcy."

Reasons for Air Subsidies

As to reasons why subsidies to air carriers should be continued, Mr. Alderman said that only three have been advanced — the "infant-industry" argument, the contention that the subsidies are analogous to land grants received by the railroads, and the "national defense" argument. The first two, he dismissed briefly. He thought his presentation had shown that air transportation is now "no infant," and he contended that there is "no analogy" between the subsidies and the railroad land grants. Among other arguments in support of the latter contention, he pointed out that only about 8 per cent of the railroad mileage benefited from land grants, and that there was in the land-grant arrangement a *quid pro quo* in the form of land-grant rates which proved to be "very profitable" to the government.

As to the "national defense" argument, Mr. Alderman suggested that "it would seem to be more efficient and economical for Congress to keep the military establishment adequately supplied with transport planes" than to rely on taking over commercial planes in time of war. "Military aviation technology and practices," he said, "are increasingly diverging from normal commercial aviation operations."

On the matter of personnel, he calculated that if the air lines furnished all of their employees to the armed forces, the contribution "would constitute a very small part of the total complement of the Air Forces in another war." The situation would not be the same as in World War II, when commercial pilots were used to train military pilots, Mr. Alderman continued. As he sees the present situation, the Air Force itself, and its equipment, "form the nucleus from which a wartime force would be expanded."

The remainder of Mr. Alderman's statement led up to his specific recommendations, which are noted above, with a general discussion of "the need for a unified and integrated national transportation policy, including air carriers

as well as surface carriers." There he quoted various pronouncements on the matter from non-railroad sources, principally those of Charles L. Dearing and Wilfred Owen, authors of "National Transportation Policy," which was published recently by the Brookings Institution, Washington, D. C.

Senate Committee O.K.'s Knudson for the I.C.C.

The Senate committee on interstate and foreign commerce voted on April 12 to report favorably to the Senate President Truman's nomination of James K. Knudson for membership on the Interstate Commerce Commission. Mr. Knudson, an attorney on the staff of the Department of Agriculture, would succeed the late Carroll Miller for the remainder of a term expiring December 31, 1953.

N.R.A.B. Awards Impair Efficiency, Says John Budd

John M. Budd, vice-president, operating department, Great Northern, testifying before the fact-finding board which is hearing demands of the Order of Railway Conductors and the Brotherhood of Railroad Trainmen for a 40-hr. week for yardmen, and a number of rule changes, made special reference to National Railroad Adjustment Board decisions which have placed a penalty on efficient and economical practices—such as using road crews to perform switching in connection with their own trains; coupling and uncoupling air hoses by road trainmen; and use of yard crews on engines helping road trains out of yards.

"To a considerable extent," he said, "our difficulties are due to restrictive working rules and unrealistic interpretations of existing rules handed down by adjustment board decisions." He stated that modern and expensive equipment has been purchased; yards have been enlarged and improved; and a great amount of time and effort has been spent on devising methods to increase efficiency. Despite these efforts, he declared, "the efficiency of yard operations has not been materially improved."

A 40-hr. week with time-and-one-half after 40 hours and on Sundays and holidays and a 20 per cent hourly rate increase for yard employees—which are among the proposals before the board—would increase the G.N.'s costs alone by $6 million annually, Mr. Budd told the board. The switching of cars and making up of trains cannot be deferred or done in advance. The railroads have ceased long ago to be a monopoly, he stated, and "if we stop our switching operations for one or two days a week we are going to be in an extremely difficult competitive position."

Commenting on the unions' proposal that the 150-mi. basic day in passenger service be reduced to 100 mi., Mr. Budd pointed out that such a change would increase pay 50 per cent on runs of 150 mi. or over, and would add to the Great Northern's passenger operating costs $723,000 a year. A more equitable change, he said, would be a 200-mi. basic day, to conform to the improvements made in track, roadway structures and equipment, and faster train schedules. "All of these improvements have enabled road service employees to earn a day's pay in a much shorter period of time and with less work and hazard than when the present basic day rules were established in 1919," he stated. "Great Northern passenger conductors." Mr. Budd told the board, "worked but four and one-fifth hours in 1948 for each basic day's pay."

American University Cancels Rail Transportation Institute

The Fifth Annual Rail Transportation Institute, which the American University, Washington, D. C., had scheduled for this spring, has been canceled because of the continued absence of its director, Dr. L. M. Homberger, As noted in the *Railway Age* of February 25, page 57, Dr. Homberger is in Germany participating in a survey of the German railroads. The university's announcement of the cancellation said he would return in the summer "to continue the program of courses in transportation and institute schedule."

I.C.C. Will Limit Hearings On Motor Carrier Applications

Division 5 of the Interstate Commerce Commission has announced a policy of limiting time allotted for public hearings on motor carrier applications. The announcement came in an April 4 notice from I.C.C. Secretary W. P. Bartel, which accompanied a Division 5 order in the first case to which the new policy has been applied.

The policy will hereafter be applied in cases in which oral hearings requested by the parties would last more than five days. In such cases, provision will be made for the filing with the commission, in advance of the hearing, of verified statements and exhibits of witnesses. These statements and exhibits will also be served on interested parties. Verified statements embodying rebuttal evidence will be handled in like manner.

With this material in hand, counsel may request that persons who signed the verified statements be present at the hearing for cross-examination. "The time which can be allowed for the oral hearings," the Bartel notice said, "will be limited and all interested parties will be held strictly to the time allotted to them. For this reason the parties should carefully prepare their evidence so that it either can be presented orally in the time allowed or that it can be presented in written form. . . . The time of oral hearing which will be provided is all which the public interest will permit."

Previously, Mr. Bartel had stated that the commission, for some time, has been "concerned about the length of many of the hearings and the resulting disrupting influence on its other work." He also noted that the commission's Bureau of Motor Carriers has been conducting "over 3,000" hearings each year.

The first case to which the new policy has been applied is No. MC-111138, which involves the application of Colonial & Pacific Frigidways, Inc., for a certificate covering operations between points in 31 eastern, southern, and mid-western states and points in 8 far-western states, as a common carrier of frozen foods, meats, meat products and meat byproducts, and dairy products. The parties had sought three weeks of hearings at points outside Washington, D. C., to be followed by "unlimited" hearings at the latter point. Division 5's order limits the hearings to a total of 60 hours.

Grain Interests Seek Probe Of Long-Distance Trucking

Sixteen organizations interested in the grain trade have asked the Interstate Commerce Commission to institute a general investigation of the economic and other effects of long-haul highway transportation of freight. The request is based on a contention that shippers of

Announce Second Morning New York-Chicago Service

The New York Central on April 10 extended its "Pacemaker" merchandise freight service to insure second morning arrival at Chicago of less-than-carload shipments from New York City. Under the new schedule freight loaded in "Pacemaker" service up to 6 p.m. for departure from New York at 7:45 p.m., reaches designated freight houses in Chicago at 4:30 on the second morning.

The Erie inaugurated a similar service on the same date. Erie train 97 leaves Jersey City, N. J., at 8:30 p.m., and arrives in Chicago at 5:30 on the second morning. The Delaware, Lackawanna & Western will handle l.c.l., forwarder and important pool cars on a schedule calling for 7:45 p.m. departure from Hoboken, N. J., arrival in Chicago at 4:45 on the second morning, in East St. Louis, Ill., at 1 o'clock on the second afternoon and Indianapolis, Ind., at 6 o'clock on the second morning. No announcements of New York-Chicago schedule changes had been made by the Pennsylvania and the Baltimore & Ohio at the time this issue went to press.

The New York Central also has announced that it will add 250 more specially equipped and painted box cars to its "Pacemaker" fleet to accommodate second morning Chicago traffic. As another step in improving its l.c.l merchandise service, the N.Y.C. has extended both its westbound and eastbound "Pacemaker" service—between New York and New England points on the east, and "key cities" in Ohio, Indiana, Illinois, Michigan, Kentucky and West Virginia on the west to a five-nights-a-week basis through the addition of Friday night departures.

Members of Diesel Locomotive Parts, Purchasing and Storekeeping Committee 42, Association of American Railroads, recently participated in a meeting and inspection tour at the Eddystone, Pa., plant of Baldwin Locomotive Works. R. B. Crean, assistant vice-president of Baldwin, was in charge of the program. The following participants are shown, left to right, in the photograph: Graham Lawson, Canadian Pacific; L. H. Haynes, Seaboard Air Line; G. S. Grassmyer, Baldwin; R. M. Fraser, New York, New Haven & Hartford; A. Hoefer, Baldwin; L. G. Kohler, Baltimore & Ohio; P. E. Carlson, Chicago, Burlington & Quincy; E. F. Sheehan, Baldwin; T. W. Greenawalt, Missouri-Kansas-Texas; C. E. Schnars, Pennsylvania; W. A. Carney, Boston & Maine; J. A. McMillan, Illinois Central; R. Radford, Baldwin; A. C. Ricketts, Baldwin (rear); G. C. Sheridan, Chicago, Milwaukee, St. Paul & Pacific (front); W. G. Rathert, Missouri Pacific; H. R. Carroll, Chicago & North Western; E. F. De Lisle, New York Central; J. N. De Laney, Baldwin; M. C. Brinson, Atlantic Coast Line; A. N. Laret, St. Louis-San Francisco; O. T. Rhode, Union Pacific; C. J. Kubler, Kansas City Southern; R. H. Pauling, Erie; A. G. Denham, St. L.-S. F.; T. Cummings, Baldwin; F. W. Pettit, Western Maryland; W. L. Fennimore, Baldwin; G. J. House, Erie; Mr. Crean, and Elmer Larson, Denver & Rio Grande Western

grain and grain products will be forced to pay higher rail rates if other railroad traffic is lost to long-haul truckers.

The petitions are also intervenors in opposition to the pending application of the Pacific Intermountain Express Company for authority to acquire Keeshin Freight Lines. Pacific operates between Chicago and St. Louis, Mo., and the west coast, while Keeshin has operating rights between those cities and the east coast. The petition asks the commission to consolidate into the proposed general investigation that application and 16 other pending cases, which also involve applications for long-distance trucking rights.

Asserting that trucks have played "havoc" with short-haul rail traffic, the petition warned that, if the truckers are allowed "broad access to transcontinental traffic, a whole new field of traffic invasion will be opened up." The resulting "injury," it continued, "will be borne most heavily by the transcontinental rail lines, which are also the most important grain carriers."

The proposed new trucking services, the petition averred, would benefit only a few shippers and receivers of limited high-grade traffic; heavy, basic commodities, like grain and grain products, are traffic which "must move by rail," because the common-carrier trucker leaves it "strictly alone." Continuing to develop their contention that the grain shipper would suffer, the petitioners said in part:

"As the highway carrier draws off the more profitable, higher-rated merchandise traffic, the burden of supporting the rail carriers falls increasingly upon the basic commodities. . . . These commodities are now being called upon to help bear the loss incident to the carriage of passengers and the further erosion of the railways' high-grade traffic by the highway carriers must inevitably increase the rail charges for transporting grain and its products."

The 16 organizations which joined in the petition are: Board of Trade of Kansas City; Board of Trade of Chicago; Minneapolis Traffic Association; Wichita Board of Trade; Indianapolis Board of Trade; Peoria Board of Trade; Nashville Grain Exchange; Sioux City Grain Exchange; Hutchinson Board of Trade Association; Omaha Grain Exchange; St. Joseph Grain Exchange; Western Grain and Feed Association; Mississippi Grain, Feed & Millers Association; Nebraska Grain & Feed Dealers Association; Kansas Grain, Feed & Seed Dealers Association; and Indiana Grain & Feed Dealers Association.

T.A.A. "Blueprints" Program At New York Meeting

"Government ownership of transportation is inevitable unless issues confronting the industry are dealt with constructively," Frank C. Rathje, president of the Transportation Association of America, told some 200 representatives of transportation, business, finance and press at a luncheon sponsored by the association in New York on April 11 to announce completion of the "blueprint" for its National Cooperative Project which is planning to submit to Congress early in 1951 proposals for constructive "public interest" solutions of various transportation problems. (See *Railway Age* of March 4, page 60.)

Fred A. Poor, chairman of Poor & Co. and chairman of the T. A. A.'s budget and finance committee, presided at the luncheon, which was also addressed by James L. Madden, vice-president of the Metropolitan Life Insurance Company and chairman of the association's board of directors.

"Transportation [Mr. Rathje said in part] is the key to the preservation of competitive enterprise and the freedoms of America. . . . What you do about it within the next few years will either set the stage for a healthy structure of competitive enterprise or open the door for nationalization."

"You must decide now the road you wish to travel. If you do nothing, and permit the problem of transportation to go by default, you will have government ownership of all transportation within a decade. This means complete socialization of the productive and distributive mechanisms of this country. . . .

"The T.A.A. offers a national framework for constructive action. It is the only organization dealing with the economics, public relations and governmental policies of overall transportation, in the public interest. It is a clearing house of research and education, to coordinate and implement efforts of others."

Mr. Rathje outlined the association's program — panels of 500 experts representing all forms of transportation, investors and users, with legal staff; regional forums to "fortify" the project and test results of the panels' economic findings; and "grass roots" contact with 125,000 opinion leaders in small towns and county seats; and concluded his speech by urging:

"That all forms of transportation be fair to and with each other. There must be fairness on the part of business executives and investors in their treatment of transportation. We are to be fair and frank with labor, with our administrators and elected representatives in Washington.

"In turn, we demand that our government be fair to enterprise; that it support the basic concepts of the Constitution; that it stop its attacks on industry merely because of bigness; that it stop its wholesale extravagance; and that it cease to be all things to all men."

Mr. Madden, after reviewing the history of the T. A. A. and the development of its present program, said that it is the association's desire "to interpret business to the public in language that can be understood." The association believes, he continued, in the competitive system, in supremacy of public interest, and in "a minimum of regulation and a maximum of opportunity.' As "retarding factors" in maintenance or achievement of those objectives, he cited the facts that transportation is "overregulated because

of failure to appreciate changing conditions," and the difficulty of obtaining capital for needed improvements because the industry as a whole is not operating in a "helpful atmosphere."

Freight Car Loadings

Loadings of revenue freight in the week ended April 8 totaled 700,129 cars, the Association of American Railroads announced on April 13. This was a drop of 20,224 cars, or 2.8 per cent, below the previous week, a decline of 57,655 cars, or 7.6 per cent, under the corresponding week last year, and an increase of 17,195 cars, or 2.5 per cent, above the equivalent 1948 week.

Loading of revenue freight for the week ended April 1 totaled 720,353 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, April 1

District	1950	1949	1948
Eastern	136,091	136,010	134,379
Allegheny	151,976	153,781	140,444
Pocahontas	64,102	53,831	22,019
Southern	129,112	118,462	114,415
Northwestern ..	70,837	104,056	81,054
Central Western	110,194	105,549	105,824
Southwestern ..	58,041	53,934	62,496
Total Western Districts ...	239,072	263,539	249,374
Total All Roads	720.353	725,623	660,631
Commodities:			
Grain and grain products	40,278	40,003	38,126
Livestock	7,381	8,260	8,595
Coal	169,538	137,399	48,471
Coke	13,032	13,937	10,204
Forest products	38,933	34,113	44,308
Ore	13,278	45,936	15,708
Merchandise l.c.l.	86,421	96,758	113,729
Miscellaneous ..	351,492	349,317	381,490
April 1	720,353	725,623	660,631
March 25	717,233	596,329	663,663
March 18	725,570	607,922	699,593
March 11	707,962	709,326	796,486
March 4	574,395	705,552	791,984
Cumulative total 13 weeks ...	8,127,115	8,956,311	9,825,612

In Canada.—Carloadings for the week ended April 1 totaled 72,810 cars, compared with 75,833 cars for the previous week, and 73,491 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
April 1, 1950	72,810	35,392
April 2, 1949	73,491	30,523
Cumulative totals for Canada:		
April 1, 1950	894,552	385,170
April 2, 1949	944,196	414,997

Pullman Conductors Set Strike Date; Defer Actual Walkout

The Order of Railway Conductors, on April 10, set 6 p.m., April 17, for a walkout of the 2,300-odd Pullman conductors which it represents. On April 11, at the request of the National Mediation Board, both parties to the dispute agreed to send representatives to Washington for further discussions, and the union announced that it would defer strike action.

The dispute between the Pullman Company and the union grew out of the O.R.C.'s demands for working rule changes, involving 72 basic issues, which, if granted, would add $4 million annually to the cost of providing Pullman car service, according to an estimate of the company. The demands were originally presented on September 19, 1949. On December 27, after extended negotiations, the services of the mediation board were invoked. Failing to bring the parties to accord, the N.M.B. suggested arbitration. The Pullman Company agreed to arbitrate the issues; the union declined, and set the date for strike action.

A.R.E.A. MEN SEE RAIL PRESSURE-WELDING OPERATIONS.—Immediately following the close of the recent convention of the American Railway Engineering Association at Chicago about 90 of the railroad men present, representing 42 roads, participated in an inspection of a rail-welding operation, involving the Oxweld pressure-welding process, on the Chicago South Shore & South Bend. The group was taken to the site of the work, near Michigan City, Ind., in a special train provided by the railroad. They saw new 115-lb. rail being welded into strings having an average length of 1,400 ft., which were destined for installation in open main track. Seen here are some of the visitors gathered around the pressure-welding machine

Loftis Honored

J. D. Loftis, chief of motive power and equipment of the Atlantic Coast Line, has been inducted as a member of the honorary engineering society, Tau Beta Pi, on the basis of his accomplishments in the field of engineering. The announcement was made by Duke University, where the fraternity's chapter of which Mr. Loftis is a member is located.

Three New England Roads To Run on Daylight Time

Daylight saving time will be used in public timetables of the Bangor & Aroostook, the Maine Central, and the Boston & Maine, for the first time, when new spring and summer timetables go into effect on April 30.

A spokesman for the three railroads said the change was made "to simplify for the public the reading of timetables during the summer months." When the new timetables become effective, clocks in all stations of the three roads will be set on daylight time.

Emergency Board Report on St. Louis Terminal—Correction

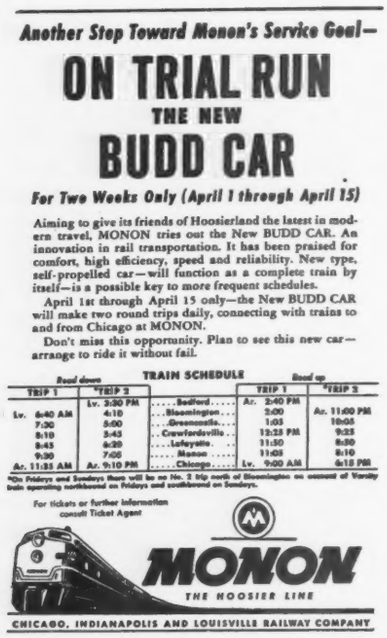
A differential of 45 cents per day above the national scale for yard enginemen was recommended for engine-service employees of the Terminal Railroad Association of St. Louis by the emergency board which recently investigated a dispute about the matter. It was reported erroneously in the *Railway Age* of April 8, page 54, that the board had recommended a 56-cent differential.

Senate Committee Staff Chief Sees Need for Better Return

The "low rate of return" which the railroads have experienced in recent years "has a tendency to deprive" them "of the necessary equity capital to complete a modernization program," according to E. R. Jelsma, director of the staff of the subcommittee on domestic land and water transportation of the Senate committee on interstate and foreign commerce. Mr. Jelsma expressed this view in an April 8 address at Kent, Ohio, before Kent University's first annual forum on foreign trade and transportation problems.

"The rate of return on railroad property investment has never been very satisfactory," Mr. Jelsma said. "In recent years this rate has averaged only about 3.3 per cent."

His address was principally an out-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7:30
8:10
8:45
9:30
Ar. 11:35 AM
Lv. 3:30 PM
4:10
5:00
5:45
6:30
7:05
Ar. 9:10 PM
Bedford
Bloomington
Greencastle
Crawfordsville
Lafayette
Monon
Chicago
Ar. 2:40 PM
2:00
1:05
12:25 PM
11:50
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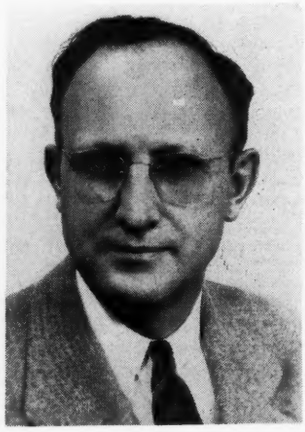

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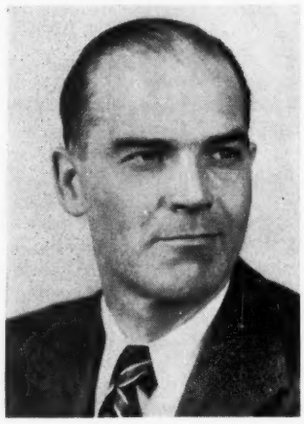

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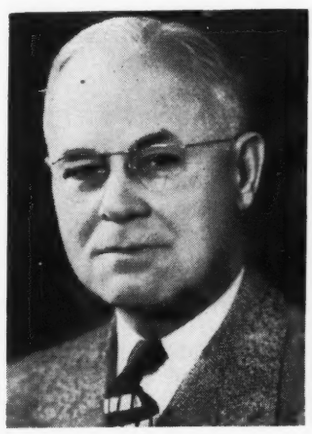

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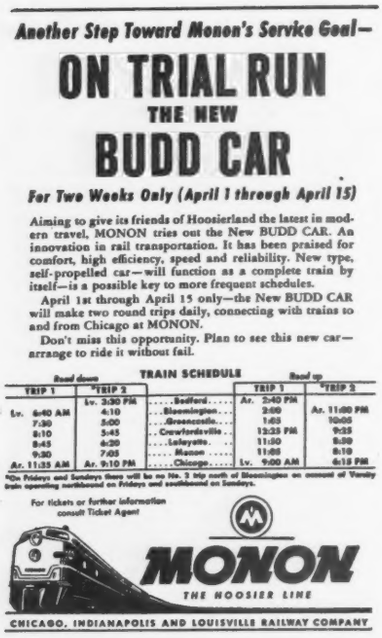
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Bedford
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Ar. 11:00 PM
7:30
5:00
Greencastle
1:03
10:05
8:10
5:45
Crawfordsville
12:25 PM
9:25
8:45
6:20
Lafayette
11:30
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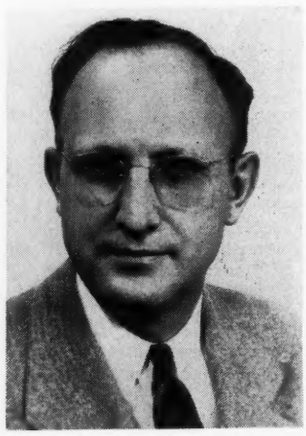

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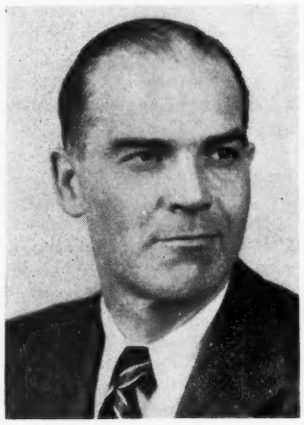

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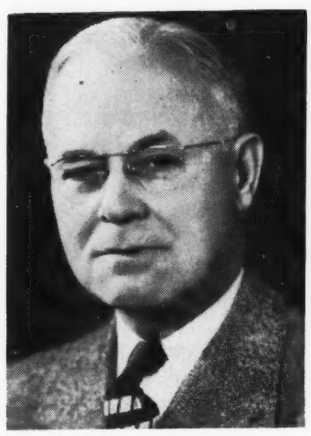

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The railroad materials department of the **Georgia-Pacific Plywood & Lumber Co.** has been transferred from Augusta, Ga., to Chicago. **Harold C. Youngs,** manager of the department at Augusta since

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January 1, will continue to head this department in Chicago, with headquarters at 332 South Michigan avenue. The department will continue to have branches in the main office in Augusta, and in the western district office at Portland, Ore.

James A. Cowan has been appointed direct factory representative in the Pennsylvania and New York territory for the **Macwhyte Company,** wire rope manufacturers, with headquarters at Pittsburgh, Pa. He has served with the company for 13 years in various sales capacities.

John F. Schmitt and **J. Gardner Brooks,** heretofore salesmen for **Carnegie-Illinois Steel Corporation** (subsidiary of the **United States Steel Corporation**) at Chicago and Pittsburgh, Pa., respectively, have been appointed assistants to manager of Chicago district railroad sales.

Columbus Basile, shop superintendent of the **Link-Belt Company's** Caldwell plant at Chicago, has been elected vice-president —operations of the **Link-Belt Speeder Corporation** (part of the Link-Belt Company), with headquarters at Cedar Rapids, Iowa.

Organization of the **Southern Chain & Mfg. Co.,** Birmingham, Ala., as an independent affiliate of the Round Chain Associate Companies, has been announced by James W. Dickey, vice-president and general manager of the latter company. Southern Chain will produce a wide variety of chain for railway and general industrial and agricultural uses.

OBITUARY

Alphonse I. Lipetz, retired chief consulting engineer in charge of research for the American Locomotive Company, died on April 11. He was 68 years old.

Walter H. Coyle, who retired in 1948 as senior vice-president of the Franklin Railway Supply Company, died on April 7, of a heart attack. He was 73 years old.

OVERSEAS

Peru.—This country's government has invited construction companies and firms interested in investment abroad to submit bids covering construction and financing of the proposed Tambo del Sol-Pucallpa Railway, according to a recent issue of Foreign Commerce Weekly.

The proposed new railroad will be about 580 km. (360 mi.) long with standard (1.435 meters) gage, have a maximum gradient of 3 per cent (compensated), and will use 80-lb. rail. Preliminary studies indicate, it was reported, that the overall cost will approximate 418,000,000 *soles* (about $28.5 million at the present rate of exchange.) Authorization and interest payments on any loans will be guaranteed by annual government revenues already assigned to the railroad. Detailed information, with maps and a longitudinal profile sketch, is available on a loan basis from the Commercial Intelligence Branch, U. S. Department of Commerce, Washington 25, D. C.

Syria.—The directorate of the North Syrian Railroads, according to Foreign Commerce Weekly, has requested bids for supply and delivery of five 1,000-hp., two 400-hp. and two 150-hp. Diesel-electric locomotives and four 400-hp. self-propelled Diesel cars. Quotations should be addressed to the directorate, P.O. Box 182, Aleppo, Syria. The cable address is Sikkethadid.

ORGANIZATIONS

The next meeting of the **New York Railroad Club** will be held on April 20 at 8 p.m., in the Auditorium—Engineering Societies building, 33 West 39th street. Fairman R. Dick, of Dick & Merle-Smith, will speak on "The Railroads' Need for Modern Freight Equipment and How It Can Be Financed."

The **Transportation Club** of the **Rochester, N. Y., Chamber of Commerce,** will hold its next meeting on April 27, on "Perfect Shipping and Claim Prevention."

The Chicago South Shore & South Bend will be host at the May 9 meeting of the **Northern Indiana Chapter, Railway & Locomotive Historical Society,** South Bend, Ind. One of the South Shore's new GE 2-D-D-2 electric locomotives will be on display in Bendix yard from 5 p.m. to 10 p.m. The meeting will be held in a newly refurnished South Shore air-conditioned coach and Merle Aldrich, master mechanic, will be the speaker.

C. A. Radford, retired public relations officer of the New York Central, was guest speaker at a recent regional meeting of the **National Association of Railroad Women,** at Cincinnati, Ohio. Other speakers, and the subjects they discussed, included Esther Craig, passenger representatives, Seaboard Air Line, "Passenger Traffic Solicitation"; Martha Moore, director of employees' clubs, St. Louis-San Francisco, "Public Relations and Publicity"; Luiese Jones, interior designer, S. A. L., "Equipment and Its Maintenance"; and Velma McPeek, supervisor passenger train service, Chicago, Burlington & Quincy, "Women in Passenger Train Service." Marjorie Meehan, passenger sales representative of the New York, New Haven & Hartford, was chairman of the committee in charge of the meeting.

Irene L. Rieke, assistant secretary, Minneapolis & St. Louis, and president of the association, presided at the business session, which were attended by representatives of 15 railroads in the United States and Canada.

The **Metropolitan Maintenance of Way Club** will hold its annual meeting and election of officers on April 27, at the Hotel Shelburne, New York, at 8 p.m. T. E. MacMannis, engineer maintenance of way, Jersey Central Lines, will present a paper on "Opportunities for Improving Maintenance of Way Operations."

One hundred and fifty U. S. and Canadian members of the **American Railway Development Association** will gather in Omaha for the organization's 41st annual convention April 19 through 21. Comprised of railroad representatives in the fields of agricultural, forestry and industrial development, emigration, land settlement, real estate, land and taxes, and public relations, the association will headquarter at the Fontenelle hotel.

Among the seven guest speakers scheduled for the three-day session are A. J. Seitz, executive vice-president, Union Pacific, and Thomas L. Preston, general solicitor of the Association of American Railroads, Washington, D. C.

The **Railway Business Woman's Association** of Chicago will hold a dinner meeting April 19 at Lewis Tower at 6:30. The guest speaker will be Mr. E. V. Hill, chairman, Freight Traffic Committee—Central Territory Railroads.

Lee R. Cowles, traffic manager of the Standard Oil Company (Indiana) has been elected president of the **Traffic Club of Chicago.** Other officers elected at the organization's recent annual dinner meeting include: Arthur B. Murphey, general freight agent, Chicago, Rock Island & Pacific—1st vice-president;

Clayton F. Dezine, traffic director, Silica Sand Traffic Association of Illinois—2nd vice-president; David S. Mackie, freight traffic manager, New York Central—3rd vice-president; Otis A. Green, western freight traffic manager, United States Lines—secretary, and R. J. Wallace traffic manager, Jaques Manufacturing Company—treasurer.

William H. Schmidt, Jr., western editor of *Railway Age* will be guest speaker at the April 20 meeting of Chicago's **Stock Yards District Traffic Club.** His subject, "It Can Happen Here Too," deals with the study he made of transportation under Great Britain's socialized economy. The meeting, designated as the third annual "Bring Your Boss Night," will be held at 5:30 p.m. in the clubrooms at 1106 West 35th street, Chicago.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

1,712 Freight Cars Delivered in March

Freight-train cars delivered for domestic use in March totaled 1,712, including 882 delivered by railroad shops, compared with February deliveries of 2,046 cars, which included 1,129 delivered by railroad shops, the American Railway Car Institute has announced. March deliveries included 169 box cars, 293 hopper cars, 916 flat cars, 210 gondola cars, 32 refrigerator cars, 87 tank cars and 5 cars of other types.

Freight-train cars ordered last month for domestic service numbered 6,201, including 3,930 ordered from railroad shops, compared with February orders for 9,075 cars, of which 5,300 were ordered from railroad shops.

The backlog of cars on order on April 1, the institute said, was 30,539, including 18,435 on order from railroad shops, compared with 26,055 cars on order on March 1 and 73,129 on order on April 1, 1949.

The **Mather Stock Car Company** has ordered 130 40-ft. beef refrigerator cars from its own shops.

The **Lake Superior & Ishpeming** has ordered 50 55-ton box cars from the Pullman-Standard Car Manufacturing Company for delivery in June.

The **Reading** has ordered 1,000 50-ton steel hopper cars from the Bethlehem Steel Company. Delivery of the hopper cars, to cost approximately $4,400,000, will begin next June. Inquiry for these cars and 500 50-ton box cars was reported in *Railway Age* of March 18, page 89.

SIGNALING

The **Atlantic Coast Line** has ordered from the Union Switch & Signal Co. material to install automatic signaling on 45.5 mi. of double track between Fayetteville, N. C., and the South Carolina state line. The order includes style H-2 searchlight signals and N-2 dwarf signals, relays, rectifiers, transformers, and necessary housings, S-21 spring switches, T-21 switch stands, and SL-25 and SL-26 electric switch locks. Field installation will be handled by railroad forces.

The **Illinois Central** has ordered from the Union Switch & Signal Co. material to install coded remote control signaling on 1.1 mi. of single track at Wickliffe, Ky. The 2-½-ft. style C control machine will be installed at Winford, Ky. In addition to code equipment, the order includes style P-5 color-light signals, relays, rectifiers, transformers, and housings. Field installation will be handled by railroad forces.

The **St. Louis-San Francisco** has ordered from the Union Switch & Signal Co. material to install centralized traffic control on 136 mi. of single track between Springfield, Mo., and Thayer. The 7-½-ft. style C control machine will be installed at Springfield division headquarters. Other material includes style H-2 searchlight signals, M-2 and M-22A electric switch machines, SL-6A electric locks, code equipment, relays, rectifiers, transformers, housings, and switch circuit controllers. Field installation will be handled by railroad forces.

CONSTRUCTION

Chicago, Rock Island & Pacific.—The following projects are currently in progress: Grading for construction of 4.26 mi. of the recently authorized new freight line from the Union Pacific at Sandown, Colo., to the Northwestern Terminal just north of Denver (see *Railway Age* of January 28, page 51, and March 11, page 104), $96,000, by Colorado Constructors, Inc., of Denver; construction of a new three-span steel and concrete highway bridge at Vasquez boulevard, Denver, in connection with the new line, $110,000, by J.H.-N.M. Monaghan & Associated Cos., Derby; construction of a three-span steel and concrete highway bridge for Brighton road, Denver, over the new line, $70,000, by L. J. Hesser & Co., Greeley; replacement of 100-ft. bridge of Chicasha, Okla., with three 44-ft. remodeled deck plate girder spans on H-beam pile piers and concrete abutments, $45,000, by company forces; construction of new car-icing facilities at Dalhart, Tex., including a "Rico" icing machine and conveyors, $193,000, by Austin Bridge Company, Dallas, and Link-Belt Company, Chicago. In addition, this road has recently completed replacement of a 60-ft. stone box culvert at Bureau, Ill., and of timber pile trestles at Athol, Kan., and Durham, and at Kingfisher, Okla., by modern steel and concrete culverts and spans at a total cost of $105,600.

Great Northern.—Company forces will install steel span bridges at Colfax, N. D., Fryelands, Wash., and Palouse, Gordon, Mont.; Blythe and Chappell, at a total cost of $293,200; make a line change at Chattaroy, Wash., $27,000; and erect new metal enginehouses at Saco, Mont., and Hogeland, and Oroville, Wash., at a total cost of $65,550.

Seaboard Air Line.—This road has purchased from Railroad Supply & Equipment, Inc., Scranton, Pa., a 250-hp. Amesteam generator of 150-lb. design pressure for operation with bunker "C" oil, for installation at Raleigh, N. C.

Western Pacific.—The following projects will be undertaken by company forces, except as noted: Construction at Oakland, Cal., of a commissary building 85 by 115 ft., and relocation and conversion of present maritime building into a dormitory and Pullman building, $120,000 (contractor A. M. Hardy); extension of sidings at Oroville (Cal.) yard and Dunphy, Nev., $142,030; extension of sidings between Gerlach, Nev., and Weso, to 125-car capacity for centralized traffic control program, $205,500; installation of C.T.C. signals, Gerlach to Weso, $717,900; installation of local message telephone circuit, San Francisco to Oroville, and Portola, Cal., to Winnemucca, Nev., $26,700; replacement of 2,400 linear ft. of timber foot-blocks with concrete sills in various tunnels, $43,950; and installation of Diesel engine facilities at Elko, Nev., and Winnemucca and Wendover, Utah, $400,000. This last project, to be undertaken in July, will be handled jointly by road forces and by contractors.

FINANCIAL

Atlantic Coast Line.—*Bond Refunding.*—This road has announced plans for refunding $50,724,000 of outstanding noncallable first consolidated mortgage 4 per cent bonds due July 1, 1952. The bonds would be exchanged for an equal amount of new general mortgage series A bonds, bearing 4½ per cent interest to September 1, 1952, and 4 per cent thereafter to maturity on March 1, 1980. The plan is subject to authorization of the new issue by stockholders at the annual meeting on April 18.

Chicago Great Western.—*Impounding of Dividend Appealed.*—Taking the position that management has the right of discretion in diversion of funds for rehabilitation or dividends, this road has appealed the order of Judge John P. Barnes freezing 30 per cent of a recent-

News Department continued on next right-hand page

Norfolk and Western Railway Company

Summary of Fifty-Fourth Annual Report for 1949

Freight traffic suffered a substantial reduction during 1949 principally as the result of stoppages in bituminous coal production and strikes in steel and other industries. The number of passengers carried as well as total passenger revenues continued to decline, although the average revenue per passenger mile increased slightly due to increased fares.

Total expenses reflected the impact for the full year 1949 of wage increases for all employees at rates effective for the last quarter of 1948. The 40-hour work week for non-operating employees caused a further substantial increase in expenses after September 1, 1949.

Balance of income, after deducting sinking funds and miscellaneous appropriations account retirements in connection with relocation of main line, decreased $16,798,000, or 47 per cent. After deducting dividends on Adjustment Preferred Stock, the balance transferred to earned surplus, $18,013,000, was equivalent to $3.20 per share of $25 par Common Stock, compared with $6.19 in 1948.

CONDENSED INCOME STATEMENT

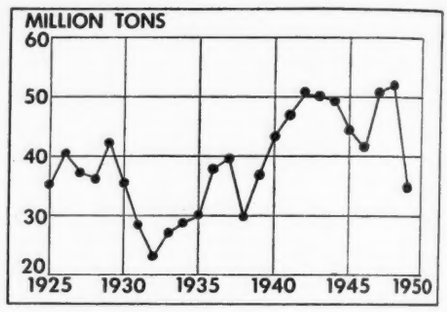
	1949	Comparison with 1948 *Decrease*	Per Cent
REVENUES AND OTHER INCOME:			
Freight—Coal	$ 81,097,614	$29,910,028	27
Other	55,804,248	5,460,790	9
Passenger	5,497,523	723,127	12
Mail, Express and Miscellaneous	6,547,587	498,439	7
Total Railway Operating Revenues	$148,946,972	$36,592,384	20
Rent Income—Equipment and Joint Facilities—Net	7,761,657	4,695,694	38
Other Income—Net	1,975,416	292,484	13
Total	$158,684,045	$41,580,562	21
EXPENSES AND OTHER INCOME CHARGES:			
Way and Structures—Repairs and Maintenance	$ 22,888,219	$ 381,206	2
Equipment—Repairs and Maintenance	31,845,351	2,089,038	6
Transportation—Operations	49,664,036	8,482,974	15
Other Expenses	9,646,249	206,479	2
Total Railway Operating Expenses	$114,043,855	$11,159,697	9
Taxes—Federal $14,471,242			
State, County and Local 7,399,181	21,870,423	12,413,773	36
Interest on Funded Debt	1,838,480	61,347	3
Total	$137,752,758	$23,634,817	15
NET INCOME	$ 20,931,287	$17,945,745	46
SINKING FUNDS AND MISCELLANEOUS APPROPRIATIONS	2,037,895	1,147,767	36
BALANCE OF INCOME	$ 18,893,392	$16,797,978	47
DIVIDENDS ON ADJUSTMENT PREFERRED STOCK	879,608		
BALANCE TRANSFERRED TO EARNED SURPLUS	$ 18,013,784	$16,797,978	48

CONDENSED EARNED SURPLUS—UNAPPROPRIATED

CREDIT BALANCE, JANUARY 1, 1949		$227,425,919
CREDITS:		
Balance Transferred from Income	$18,013,784	
Miscellaneous Credits	155,594	
Total		18,169,378
		$245,595,297
CHARGES:		
Appropriation of Surplus for Dividends on Common Stock	$22,503,728	
Miscellaneous Charges	75,669	
Total		22,579,397
CREDIT BALANCE, DECEMBER 31, 1949		$223,015,900

COAL

While the use of oil and gas in the production of heat and power has increased substantially, the production of bituminous coal in the past several years prior to 1949 was at its highest level, influenced by expanded industrial development and increased population. Factors favorable to the production of coal at mines served by the Company are the excellent qualities of the coals and their suitability for essential needs. The greater portion of these coals rank high for metallurgical and coke making use. Of the total produced in 1948, 33 per cent was used at steel plants and other coke plants, 29 per cent was used at public utility power plants and for other steam and industrial use, and 38 per cent was for domestic and other use.



Graph showing production of revenue coal, in net tons, on lines of Norfolk and Western by years from 1925 to 1949, inclusive, with the highest annual production in 1948.

FINANCIAL

Capital Stock outstanding was $162,638,500, par value, which represented 78.56 per cent of total outstanding stock and bond capitalization. Stockholders numbered 19,328 at the year end, an increase of 1,842 over the previous year.

Dividends were paid quarterly on the outstanding Adjustment Preferred Stock at the annual rate of $1.00 a share. Quarterly dividends were paid on the outstanding Common Stock at the annual rate of $3.00 a share, and an extra dividend of $1.00 was paid in December. Total dividends amounted to $23,383,000.

Total Funded Debt was $44,390,000 and represented 21.44 per cent of total outstanding capitalization. Fixed charges were earned 11.79 times in 1949 and an average of 14.39 times for the last ten years.

At the end of the year, appropriations to the voluntary sinking fund for retirement of the Company's Funded Debt and income from investments totaled $6,314,000, and investments, largely Company securities, had a market value of $6,876,000.

During 1949, additions and improvements to fixed property were progressed at a total cost of $15,866,000, and $20,398,000 was expended for new and rebuilt equipment. In the four postwar years, capital expenditures for improvements, modernization and new and rebuilt equipment amounted to $90,823,000, all of which were made from the Company's Treasury. Uncompleted authorized improvements and modernization at beginning of 1950 will involve capital expenditures totaling approximately $14,304,000.

TAXES

Total taxes were $21,870,000, a decrease of $12,414,000, or 36.21 per cent. Included in this amount were Federal income, retirement, unemployment insurance and excise taxes, $14,471,000, as well as State, County and local income, property and miscellaneous taxes, $7,399,000.

Total Taxes amounted to $1,033 for each employee, $4 for each share of Common Stock and fifteen cents for each dollar of operating revenues.

A reserve fund for taxes which were accrued in 1949, payable in 1950, and for contingencies totaled $23,302,000 at the end of the year. The fund is invested in United States Government obligations.

EMPLOYEES

The average number of employees during the year was 21,174. Total payroll for 1949 was $71,730,000, an average of $3,388 per employee, compared with $79,916,000 and $3,441, respectively, for 1948. In addition to wages and salaries, the Company paid $5,878,000 Railroad Retirement and Unemployment Insurance taxes and for employee relief and pension funds, an average of $278 per employee.

The Company expresses its appreciation of the continued loyalty, efficiency and cooperative effort of both employees and officers throughout the year.

R. H. SMITH,
President.

ANNUAL REPORTS

Railroad		Operating Revenues	Operating Expenses	Fixed Charges	Net Income	Current Assets*	Current Liabilities*	Long Term Debt*
Atchison, Topeka & Santa Fe ...	1949	$482,753,946	$363,134,800	$8,337,749	$50 042,146	$196,950,041	$87,047,689	$214,877,735
	1948	526,733,745	387,510,697	8,496,447	62,842,770	240,838,737	103,512,002	221,239,287
Baltimore & Ohio	1949	356,708,017	293,357,575	20,005,100	6,869,826	90,882,005	53,766,506	603,180,863
	1948	400,190,447	324,221,226	19,354,828	22,158,295	100,073,835	62,763,781	619,577,193
Chesapeake & Ohio	1949	273,958,827	219,379,374	11,670,025	11 357,897	68,540,705	58,172,962	335,193,225
	1948	334,555,156	253,899,638	9,438,097	29,791,435	109,367,926	82,002,842	329,784,000
Chicago, Rock Island & Pacific...	1949	184,656,845	135,368,229	1,498,925	17,383,379	70,079,369	41,193,281	86,693,780
	1948	197,404,989	143,163,105	1,411,256	18,792,509	75,319,151	45,852,718	77,151,305
Illinois Central	1949	253 786,391	196,199,803	10,509,803	16 327,502	110,916,458	64,596,940	238,671,705
	1948	268,174,956	202,034,565	10,343,673	20,949,219	122,734,763	74,920,842	233,986,670
Missouri-Kansas-Texas	1949	75,130,317	55,444,455	2,403,288	4,870,248	21,486,490	14,373,171	78 579,237
	1948	83,292,919	60 876,194	2,472,123	6,503,917	23,352,166	16,372,884	74,136,209
New York, Chicago & St. Louis..	1949	98,853,215	70,810,746	3,634,004	12 473,780	39,017,477	28,336,284	120,071,145
	1948	112,359,821	76,155,520	3,615,705	15,627,251	31,089,469	25,746,066	121,534,484
Northern Pacific	1949	150,176,138	125,184,241	10,222,325	9,734,443	59,515,387	28,971,953	274,473,688
	1948	157,177,311	121,621,589	10,290,251	12,312,411	81,520,299	35,835,349	265,066,229
Southern Pacific	1949	537,518,704	424,833,131	20,612,076	30 479,645	181,315,493	95,642,000	636,080,770
	1948	587,462,083	457,229,996	20,332,526	38,759,585	210,026,196	108,282,351	608,858,749
Wabash	1949	93,642,963	73,619,761	1,824,144	5,693,237	35,639,130	23,806,254	76,134,869
	1948	107,361,529	77,044,304	1,717,890	10,997,653	47,074,449	32,770,910	67,001,054

*On December 31.

ly declared preferred stock dividend. (See *Railway Age* of April 1, page 71.)

The appeal now lodges the case in the United States Court of Appeals at Chicago and hearings will probably begin in June. The impounding action taken by Judge Barnes arose from a stockholder's suit which was an attempt to force payment of back dividends. An attorney for the group, Alex Elson, contended that his fees could be paid only from funds set aside for dividends, in the event the suit was successful.

Chicago Great Western. — *Trackage Rights.*—This road has asked the I.C.C. for approval of an agreement with the Chicago, Milwaukee, St. Paul & Pacific under which the C.G.W. would acquire trackage rights over approximately 1.9 mi. of Milwaukee Road tracks at Austin, Minn. The agreement would also permit the C.G.W. to use the Milwaukee's passenger station and facilities at Austin. In order to use the Milwaukee's tracks and station, the C.G.W. plans to construct a 540-foot connection between the two roads in the northeast section of Austin, and another connection of 730 feet approximately 2 mi. south of Austin. The application to the I.C.C. also asked for authority to construct these connecting tracks. The agreement between the C.G.W. and the Milwaukee covers passenger service only. The C.G.W. would pay $15,000 a year, in equal monthly installments, to operate two trains a day over the Milwaukee tracks and use the station facilities. Additional trains would be charged a rate of $25 each.

Missouri-Kansas-Texas of Texas.—*New Director.*—Henry C. Beck, of the Henry C. Beck Company, Dallas, Texas, has been elected to the board of directors of this company, a subsidiary of the Missouri-Kansas-Texas.

Southern.—*Purchase of Buffalo, Union-Carolina.*—The I.C.C. has agreed to reconsider the condition imposed in its report of December 2, 1949, in which it ruled that the Southern should pay no more than $100,000 for the B.U.-C. The record in the case was reopened to permit the roads to file a "stipulation of facts" as additional testimony, and it was in light of this evidence that the commission agreed to review its earlier findings. The roads had set $150,000 as the price the Southern would pay for the Buffalo property, but the commission in authorizing the purchase imposed a condition lowering the price to $100,000. (See *Railway Age* of December 17, 1949, page 76, and March 11, page 105.)

New Securities

Application has been filed with the I.C.C. by:

Chicago, Rock Island & Pacific.—To assume liability for $3,630,000 of series G equipment trust certificates to finance in part 1,000 steel-sheathed, wood-lined, 50-ton box cars, to be purchased from the American Car & Foundry Co. The cars will cost approximately $4,874 each, or a total of $4,874,000. The certificates, to be dated June 1, would mature in 30 semi-annual installments of $121,000 each, beginning December 1, 1950. They would be sold by competitive bids, with the interest rate set by such bids.

Division 4 of the I.C.C. has **authorized:**

Erie.—To issue $417,000 of first consolidated mortgage bonds, series J, to be sold at par to the Guaranty Trust Company of New York. Proceeds will be used to purchase from the Goshen & Deckertown the latter's new first mortgage bond of $246,500, and from the Montgomery & Erie a new first mortgage bond of $170,500. (See *Railway Age* of March 18, page 90.) Both the G.&D. and the M.&E. are lessor roads of the Erie, and the I.C.C. has authorized them to issue their respective bonds. The two roads will use proceeds from sale of their bonds to redeem existing first and second mortgage bonds against their properties.

The series J bonds of the Erie will be dated February 15 and mature August 15, 1955. They will bear interest at 2 per cent. The bonds of the G.&D. and the M.&E. will each run 50 years, with interest also at 2 per cent. In approving the issues, the commission noted that annual savings of $12,890 in rentals would be passed along to the Erie. The Erie is to pay premiums of approximately $27,012 in connection with calling the existing bonds of the two lessor roads.

Seaboard Air Line.—To assume liability for $7,065,000 of series G equipment trust certificates to finance in part 67 Diesel-electric locomotives at an estimated total cost of $9,420,167. (See *Railway Age* of March 18, page 90.) The certificates, to be dated April 1, will mature in 15 annual installments of $471,000 each, beginning April 1, 1951. The commission approved a selling price of 99.026 with interest at 2⅛ percent — the bid of Halsey, Stuart & Co. — which will make the average annual cost of the proceeds approximately 2.28 per cent. The certificates were reoffered to the public at prices yielding from 1.35 to 2.5 per cent, according to maturity.

Average Prices Stocks & Bonds

	Apr. 11	Prev. week	Last year
Average price of 20 representative railway stocks	42.33	42.70	40.23
Average price of 20 representative railway bonds	93.07	92.75	87.68

Dividends Declared

Cleveland, Cincinnati, Chicago & St. Louis.—5% preferred, $1.25, quarterly, payable April 29 to holders of record April 14.

Louisville & Nashville.—88¢, quarterly, payable June 12 to holders of record May 1.

Montgomery & Erie.—17½¢, semiannual, payable May 1 to holders of record April 15.

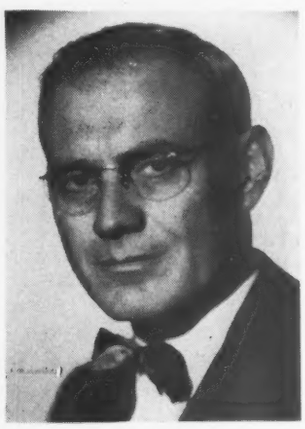
Piedmont & Northern.—75¢, quarterly, payable April 20 to holders of record April 5.

RAILWAY OFFICERS

EXECUTIVE

Walter L. Drill, executive vice-president of the Hudson & Manhattan, has assumed complete executive responsibility for all phases of management, reporting to the president. Mr. Drill will be assisted by three vice-presidents, each in charge of several phases of the company's activities. **John R. Grove,** prior to 1948 vice-president and general manager of the Lehigh Valley, will continue as vice-president in charge of the road, including transportation, way and structures, car equipment, construction and design departments, with particular concern for execution of a multi-million-dollar program to modernize the road and its equipment. **C. Lloyd Egner,** former vice-president of the National Broadcasting Company and executive of the Radio Corporation of America, has been elected vice-president in charge of commercial enterprises of the H.&M. In addition to real estate and advertising, Mr. Egner will direct public relations, research, and promotion. **Harold H. Funk,** for some years president of the R. A. Lasley, Inc., industrial engineering firm, has been elected vice-president in charge of corporate affairs, with jurisdiction over finance, budgetary control, purchasing, labor relations and legal activities.

Walter L. Drill



C. Lloyd Egner

Mr. Drill was born at Elizabeth, N. J., on June 22, 1916; was graduated from Princeton University with an A.B. degree in 1938, and attended Wharton School at the University of Pennsylvania. His early business career was with the Atlantic Mutual Insurance Company. Entering the Navy in 1942, he was on destroyer duty throughout the war. Mr. Drill became secretary of the H. & M. in 1946 and executive vice-president in 1949.

Harold H. Funk

Mr. Egner began his business career in 1917 with the Victor Talking Machine Company, and was later connected with R.C.A. and N.B.C.

Mr. Funk has been connected with R. A. Lasley in New York for the past 13 years. As president and chief engineer he conducted industrial and commercial studies for many of the largest business corporations in the United States, including the Pennsylvania. During World War II he served as a consultant to the War Production Board.

Merle J. Reynolds has been appointed executive assistant—transportation of the Chicago, Rock Island & Pacific, with headquarters at Chicago. Mr. Reynolds previously served in executive capacities with the New York Central and the Baltimore & Ohio.

E. H. Utley, Jr., secretary and comptroller of the Chicago South Shore & South Bend at Michigan City, Ind., has been elected vice-president and comptroller at that point.

Reese H. Harris has been elected chairman of the board of the Mississippi Central at Scranton, Pa. **L. E. Faulkner,** vice-president and general manager, has been elected president, with headquarters as before at Hattiesburg, Miss., succeeding **J. Curtis Platt,** whose death on March 19 was reported in the *Railway Age* of April 1. Mr. Faulkner, who will also continue as general manager and director, was born on November 2, 1883, at Mansfield, Pa. He was educated at Mansfield State Normal (1902) and began his career as a civil engineer in 1903 with the Wabash. From 1904 to 1905 he was with the Buffalo & Susquehanna, becoming identified with the Mississippi Central as levelman in 1905. He was appointed resident engineer on construction work in 1907; division engineer in 1908; chief engineer in 1910; general manager in 1920; and vice-president, general manager and director in 1925.

FINANCIAL, LEGAL & ACCOUNTING

R. C. Griffith, land and industrial commissioner of the Texas & Pacific, at Dallas, Tex., has retired after 31 years of service with that road.

H. T. Dickinson, chief clerk to the auditor of freight and passenger accounts of the Chicago & Eastern Illinois at Englewood, Ill., has been promoted to auditor of freight and passenger accounts at that point. He succeeds **R. E. Sanson,** who has retired after more than 50 years of service with the C. & E. I.

C. A. Anderson, assistant auditor—revenues of the Northern Alberta (part of the Canadian National and Canadian Pacific) has been promoted to auditor, with headquarters at Edmonton, Alta., succeeding **Frederick J. Kavanagh,** retired.

F. E. Gleach has been appointed deputy tax commissioner in charge of the Richmond, Va., tax office of the Chesapeake & Ohio, with responsibility for tax accounting matters involving state and local taxes and federal income taxes.

OPERATING

As reported in the *Railway Age* of March 11, **William Harold Murray** has been appointed superintendent of the Montreal terminals and St. Jerome divisions of the Canadian National at Montreal, Que. Mr. Murray was born on November 25, 1905, at Ottawa, Ont., and attended public schools and Lisgar Collegiate at Ottawa. Entering railroad service in September, 1922, as a junior

William Harold Murray

clerk in the operating department of the C.N., he served in various capacities at Ottawa until 1942. Mr. Murray then went to Montreal as general clerk in the general superintendent's office and the following year he became chief clerk. In 1947 he was promoted to supervisor of export traffic and one year later was appointed assistant superintendent of the Montreal terminals, which position he held until his recent promotion.

S. J. Wise, assistant superintendent of the Canadian National at North Battleford, Sask., has been transferred to the Dauphin division, with headquarters at Dauphin, Man., succeeding **J. C. Crombie,** assigned to other duties.

TRAFFIC

Harvey R. Wright, whose promotion to freight traffic manager of the Atchison, Topeka & Santa Fe at Chicago was reported in the *Railway Age* of March 18, was born on June 12, 1906, at Valley View, Tex. Following graduation from high school he attended the University of Texas for one year and Texas Christian University for two years, entering railroad service with the Gulf, Colorado & Santa Fe as a trucker at Ft. Worth, Tex.,

Harvey R. Wright

in June, 1923. After serving as clerk from 1924 to 1930 he was transferred to New Orleans, La., as chief clerk. In 1936 he went to Galveston, Tex., where he held the positions of rate clerk and assistant chief rate clerk until his appointment as assistant to the freight traffic manager in 1942. Mr. Wright became assistant general freight agent at San Francisco, Cal., in April, 1947, and held that position before his recent promotion.

F. F. Crabbe, whose appointment as assistant freight traffic manager of the Chicago, Burlington & Quincy at St. Louis, Mo., was reported in the *Railway Age* of March 4, was born on September 12, 1896, at Newark, N. J., and received his higher education at Amherst College. Mr. Crabbe entered railroad service as a clerk in the general freight agent's office of the New York, Ontario & Western at New York. His career with the Burlington began in March, 1924, when he became a clerk in the office of the general freight agent at Fort Worth, Tex. From 1927 to 1931 he held a similar position at Denver, Colo., subsequently being advanced to assistant general freight agent there. In 1935 he was promoted to general agent at Washington, D. C., and in 1940 was appointed executive general agent at that point. Mr. Crabbe became general freight agent at St. Louis in December, 1945, which post he held prior to his recent appointment.

Spencer L. Parker, whose appointment as assistant freight traffic manager of the Chicago, Burlington & Quincy at Omaha, Neb., was reported in the *Railway Age* of March 4, was born on November 25, 1894, at St. Paul, Minn. Mr. Parker graduated from Central high school, Minneapolis, Minn., and later attended the University of Minnesota. Starting his Burlington career as a clerk in the general agent's office at Minneapolis in April, 1917, he entered military service the following December. After serving overseas with the 25th Engineers, he returned to the Burlington at Minneapolis as chief clerk in the office of the general agent. In 1927 he was appointed grain agent, with headquarters at Omaha, and in 1932 became commercial agent, with headquarters at Minneapolis. Mr. Parker was promoted to general freight agent at Denver, Colo., in June, 1945, in which capacity he was serving at the time of his latest appointment.

J. F. Lecanda, general agent of the Mexican at Mexico City, D. F., has been appointed acting general freight and passenger agent at that point, succeeding **L. M. Gonzalez,** who was acting temporarily. **Antonio F. Herrera** has been appointed acting general agent at Mexico City.

A. C. L. Warner has been appointed general agent, passenger department, of the Grand Trunk (part of the Canadian National), with headquarters at Cincinnati, Ohio.

John J. Van Burk, general freight agent of the Chicago & Eastern Illinois at Chicago, will retire on April 31. Mr. Van Burk was born in that city on February 5, 1884, and entered C. & E. I. service in 1897 as an office boy in the law department. After holding various clerical positions in the freight accounting and operating departments, in 1909 he was transferred to the general freight department. In 1918 he was appointed chief clerk in that department, and in 1931 became assistant general freight agent, specializing in freight rate and tariff matters. Mr. Van Burk was promoted to general freight agent in October, 1946.

W. G. Young, assistant foreign freight agent of the Western Maryland, has been appointed general foreign freight agent, with headquarters as before at New York. **C. L. Pfeiffer,** assistant foreign freight agent, has been appointed assistant to foreign freight traffic manager, and **A. T. Lutz,** also assistant foreign freight agent, has been appointed foreign freight agent, both with headquarters as before at Baltimore, Md. **H. B. Gillespie,** traffic representative at St. Louis, Mo., has been appointed foreign freight agent at New York, succeeding **M. M. Palmer,** who has retired after 29 years of service with the W.M.

John C. Colley, assistant passenger traffic manager of the New York Central System at Chicago, has retired after 52 years of railroad service.

MECHANICAL

As noted in the *Railway Age* of March 4, the following changes have occurred in the mechanical department of the Louisville & Nashville at Louisville, Ky.: **John F. Ryan,** assistant superintendent of machinery, promoted to superintendent of machinery; **C. N. Wiggins,** general master mechanic, advanced to succeed Mr. Ryan; and **Carl A. Love,** assistant general master mechanic, appointed to replace Mr. Wiggins.

Mr. Ryan is a native of Russellville, Ky., and received his education at Bethel College, Russellville, and at St. Mary's College, St. Mary's, Ky. He entered L. & N. service in January, 1910, as machinist apprentice in the road's shops at Russell-

John F. Ryan

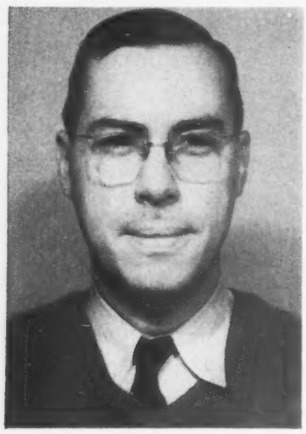
ville, completing his apprenticeship in 1914. Subsequently he served as machinist and locomotive fireman on the Owensboro and Nashville division until 1917, when he was transferred to Ravenna, Ky., as machinist. In 1918 Mr. Ryan was appointed night foreman at Ravenna, later holding positions as roundhouse foreman and general foreman. He was advanced to master mechanic in 1940 and to general master mechanic at Louisville in January, 1944. He became assistant superintendent of machinery in January, 1948.

Mr. Wiggins was born on October 29, 1914, at Shelbyville, Tenn., and was graduated from Mississippi State College with a B. S. degree in mechanical en-

gineering in 1939. In September of that year he entered service with the L. & N. as special apprentice at the road's South Louisville, Ky., shops. On completing his apprenticeship in September, 1942, he was appointed machinist, and in July, 1943, was advanced to assistant general foreman at South Louisville. He was transferred to Corbin, Ky., in the same capacity in February, 1945. The following May he was promoted to general foreman at Corbin, becoming assistant general master mechanic at Louisville in April, 1947. Mr. Wiggins was further promoted to general master mechanic in January, 1948.

C. N. Wiggins

A native of Knoxville, Tenn., Mr. Love graduated from Vanderbilt University's College of Engineering. He started his career with the L. & N. in June, 1939, as a special apprentice at South Louisville, and subsequently served as machinist until November, 1943, when he was appointed assistant general foreman at the South Louisville machine shop. Later he held similar positions at the South Louisville roundhouse and at Boyles, Ala. Mr. Love served as general foreman at Paris, Tenn., and at Boyles, prior to his appointment in January, 1948, as assistant general master mechanic at Louisville.



Carl A. Love

R. W. Hunt, fuel supervisor, Coast Lines, of the Atchison, Topeka & Santa Fe, at Los Angeles, Cal., has been appointed fuel supervisor of the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., succeeding **A. A. King,** retired.

ENGINEERING & SIGNALING

G. B. Blatt has been appointed superintendent of telegraph and signals of the Reading at Philadelphia, Pa., as noted in the *Railway Age* of March 11. Mr. Blatt was born on February 10, 1903, at Camden, N. J., attended Camden high school, and studied higher mathematics and electrical engineering with the International Correspondence Schools. Entering railroad service with the Reading on November 16, 1923, as signal helper at Philadelphia, Mr. Blatt was appointed signal maintainer at Jenkintown, Pa., on January 1, 1936; signal foreman at Philadelphia on December 1, 1936; general signal foreman at the same point on August 1, 1943; supervisor of signals, also at Philadelphia, on June 1, 1947; and signal inspector there on April 8, 1949. He held the latter position at the time of his recent appointment as superintendent of telegraph and signals.

G. B. Blatt

Lee W. Howard, division engineer of the Illinois Central at Jackson, Tenn., has been promoted to the new position of assistant valuation engineer at Chicago. He is succeeded by **Norman W. Kopp,** engineer of design at Chicago.

SPECIAL

C. A. McRee, assistant director of personnel of the Seaboard Air Line, has been promoted to director of personnel, with headquarters as before at Norfolk, Va., succeeding **H. A. Benton,** who has retired after more than 46 years of service. Mr. McRee was born at Watkinsville, Ga., on January 22, 1898, and received his B.S.C.E. degree from the Georgia Institute of Technology in 1922. He entered railroad service in January, 1923, as engineer inspector with the Seaboard and was appointed assistant division engineer at Hamlet, N. C., in March, 1923, and division engineer at Raleigh, N. C., in August, 1925. Mr. McRee served as assistant roadmaster and roadmaster at various locations from February, 1928, to December, 1933, then becoming trainmaster at Hamlet. In May, 1942, he was appointed assistant superintendent, in which position he served successively at Hamlet and Raleigh. During World War II Mr. McRee commanded the 722nd Railway Operating Battalion, sponsored by the Seaboard, and saw extensive service in the European Theater. He was awarded the Bronze Star and held the rank of lieutenant colonel upon his return to civilian life. In May, 1946, Mr. McRee returned to the S.A.L. as division superintendent at Raleigh and three months later was appointed assistant general manager at Savannah, Ga. In July, 1948, he became assistant director of personnel at Norfolk.

C. A. McRee

Mr. Benton was born at Monroe, N. C., on November 11, 1883, and was educated in the public schools of that community. He began his railroad career with the S.A.L. in 1900 as a baggage and transfer clerk. For three years he was connected with the Mexican railways as yardmaster, returning to the S.A.L. in 1906 as yardmaster. Mr. Benton subsequently served as general yardmaster, trainmaster, division superintendent, assistant general manager and general manager. In June, 1942, he was named executive general agent to the receivers, which position he held until August, 1946, when he became director of personnel.

OBITUARY

C. N. Lammers, chief fuel and fire inspector of the Chicago & Eastern Illinois at Danville, Ill., died on April 7, at Buffalo, N. Y.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating Revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1950	1949
Akron, Canton & Youngstown	Feb.	171	338,984	40	349,416	62,950	39,449	27,666	108,307	239,428	68.5	109,988	44,026	55,864	50,604
	2 mos.	171	687,578	157	709,905	118,530	78,748	60,140	222,843	506,125	71.3	203,780	85,078	104,765	108,670
Atchison, Topeka & Santa Fe	Feb.	13,073	26,850,773	2,939,507	32,671,747	5,022,486	6,494,114	907,486	10,908,035	24,899,711	76.21	7,772,036	4,230,136	3,614,310	3,330,459
	2 mos.	13,073	56,499,081	6,500,634	69,097,526	9,773,223	13,791,683	1,778,367	23,218,217	51,790,070	74.95	17,307,456	9,215,194	8,039,468	5,804,073
Atlanta & St. Andrews Bay	Feb.	82	197,272	841	204,949	30,810	14,445	6,118	48,577	113,513	55.4	91,436	37,330	37,039	30,406
	2 mos.	82	439 644	1,695	454,256	59,920	30,620	12,877	100,726	231,905	51.1	222,351	92,038	89,764	65,016
Atlanta & West Point	Feb.	93	214,569	34,773	281,835	34,281	42,064	12,105	139,560	249,914	88.7	31,921	17,859	—4,629	—14,233
	2 mos.	93	461,522	81,729	617,030	75,657	91,509	25,461	298,218	535,452	86.8	81,578	49,999	—4,792	—7,009
Western of Alabama	Feb.	133	239,552	34,111	301,561	38,812	52,425	12,506	130,193	254,338	84.3	47,223	30,642	19,605	14,057
	2 mos.	133	512,805	80,894	654,605	78,017	108,808	26,379	269,608	524,494	80.1	130,111	77,359	53,488	31,066
Atlantic & Danville	Feb.	205	97,528	.....	99,108	24,924	6,723	6,536	36,678	84,414	85.2	14,694	5,384	1,300	.....
	2 mos.	205	194,274	.....	198,967	48,924	13,053	14,857	70,748	167,037	84.0	31,930	12,984	2,551	.....
Atlantic Coast Line	Feb.	5,528	8,147,135	1,801,624	10,753,355	1,751,326	1,646,764	279,328	4,140,058	8,322,137	77.4	2,431,218	1,000,000	1,164,151	1,226,436
	2 mos.	5,527	16,751,298	3,697,029	22,115,099	3,582,437	3,340,122	601,943	8,652,618	17,213,397	77.8	4,901,702	2,050,000	2,382,617	2,418,824
Charleston & Western Carolina	Feb.	343	349,091	2,413	358,795	70,597	58,342	13,853	146,199	297,841	83.0	60,954	30,000	27,395	10,069
	2 mos.	343	724,388	3,752	744,812	138,755	104,801	29,532	302,417	593,580	79.7	151,232	70,000	76,006	12,683
Baltimore & Ohio	Feb.	6,201	19,452,849	1,450,286	22,302,042	2,403,359	4,581,939	727,949	10,371,274	19,264,603	86.4	3,037,439	1,096,472	1,350,874	2,758,941
	2 mos.	6,201	43,367,235	3,217,050	49,562,419	5,746,820	11,243,124	1,436,095	22,564,783	43,524,843	87.8	6,037,576	2,646,543	2,280,701	5,578,032
Staten Island Rapid Transit	Feb.	29	144,480	45,275	193,252	36,763	35,731	1,474	117,551	211,228	109.3	—17,976	32,623	—64,681	—55,204
	2 mos.	29	324,073	92,218	423,714	73,239	73,537	3,107	242,059	432,066	102.0	—8,352	65,242	—103,570	—96,562
Bangor & Aroostook	Feb.	602	1,228,661	26,325	1,289,335	169,209	203,119	14,696	309,758	740,477	57.4	548,858	212,663	261,539	435,222
	2 mos.	602	2,263,228	58,651	2,388,352	338,388	393,249	28,393	578,583	1,429,408	59.9	958,944	384,985	457,879	680,494
Bessemer & Lake Erie	Feb.	212	793,228	524	805,972	112,387	494,681	15,696	292,253	993,448	123.3	—187,476	28,672	—35,178	156,499
	2 mos.	212	1,607,139	1,423	1,639,378	231,976	951,781	31,010	591,871	1,966,319	119.9	—326,941	128,937	18,740	332,517
Boston & Maine	Feb.	1,712	4,460,300	936,919	5,927,548	1,066,341	948,500	101,665	2,753,891	5,142,733	86.8	784,815	479,166	—21,984	251,792
	2 mos.	1,712	9,470,802	1,898,260	12,489,707	2,141,478	1,967,410	219,373	5,733,750	10,656,015	85.3	1,833,692	1,008,367	163,715	503,985
Burlington-Rock Island	Feb.	228	277,100	38,339	335,929	47,603	37,339	4,031	134,169	241,688	71.9	94,241	10,485	14,171	96,324
	2 mos.	228	568,339	87,493	697,232	102,774	79,254	9,301	298,350	529,019	75.9	168,213	21,382	4,270	92,457
Cambria & Indiana	Feb.	35	9,410	.....	9,440	10,498	70,161	831	9,664	100,353	1,063.1	—90,913	—13,600	—38,164	68,709
	2 mos.	35	92,962	.....	93,033	23,478	156,540	1,771	28,210	229,906	247.1	—136,873	24,245	—14,543	155,314
Canadian Pacific Lines in Maine	Feb.	234	497,788	34,058	551,196	77,502	90,715	6,206	217,112	403,973	73.3	147,223	25,690	59,518	161,099
	2 mos.	234	1,069,824	70,417	1,186,738	142,706	181,441	11,863	441,131	801,391	67.5	385,347	50,178	193,810	359,636
Canadian Pacific Lines in Vermont	Feb.	90	139,755	13,287	169,197	43,541	25,737	5,069	105,387	186,725	110.4	—17,528	12,430	—73,819	—123,135
	2 mos.	90	283,638	27,259	345,358	81,839	54,531	9,320	202,549	362,043	104.8	—16,685	23,887	—129,475	—222,796
Central of Georgia	Feb.	1,815	2,391,151	211,083	2,800,024	494,815	469,066	110,349	1,292,261	2,521,532	90.1	278,492	211,651	7,517	—42,628
	2 mos.	1,815	4,838,370	451,337	5,719,922	1,009,206	974,939	223,746	2,690,971	5,218,003	91.2	501,919	428,086	—42,944	16,568
Central of New Jersey	Feb.	411	1,925,271	442,464	2,519,637	362,389	473,812	50,984	1,395,803	2,430,573	96.5	89,064	353,723	—488,614	—493,377
	2 mos.	411	4,155,770	921,238	5,419,222	736,617	981,104	103,138	2,914,921	5,042,942	93.1	376,280	717,843	—855,535	—1,090,040
Central of Pennsylvania	Feb.	212	1,081,649	7,012	1,116,177	98,725	326,259	22,841	382,285	865,141	77.5	251,036	54,318	474,470	624,466
	2 mos.	212	2,315,666	17,398	2,390,148	204,357	656,083	46,018	809,377	1,790,297	74.9	599,851	110,146	1,053,935	1,402,347
Central Vermont	Feb.	422	593,000	62,000	705,000	129,865	157,372	15,014	314,125	652,817	92.6	52,183	44,586	—56,712	2,008
	2 mos.	422	1,261,000	114,000	1,476,000	238,146	311,520	29,179	665,177	1,313,835	89.0	162,165	91,317	—57,845	3,832
Chesapeake & Ohio	Feb.	5,118	12,744,429	388,175	13,652,790	3,395,731	4,451,708	467,908	5,939,960	15,158,861	111.0	—1,506,071	500,420	—1,720,715	3,273,928
	2 mos.	5,118	31,949,401	955,092	34,000,533	6,817,939	9,186,630	998,374	13,445,313	32,342,144	95.1	1,658,389	2,496,389	—235,830	6,693,804
Chicago & Eastern Illinois	Feb.	906	1,544,509	218,455	1,964,686	257,318	329,027	99,606	881,974	1,691,453	86.1	273,233	68,900	47,028	132,753
	2 mos.	906	3,234,846	475,756	4,128,100	531,691	647,244	192,957	1,857,325	3,480,194	84.3	647,906	156,900	179,101	275,703
Chicago & Illinois Midland	Feb.	130	184,605	218	194,761	70,760	91,182	24,580	117,592	340,364	174.8	—145,603	33,457	—180,171	144,831
	2 mos.	130	635,677	686	661,729	150,159	202,648	56,555	280,703	761,899	115.1	—100,170	69,689	—165,296	272,326
Chicago & North Western	Feb.	8,075	9,221,586	1,331,431	11,816,827	1,838,820	2,632,000	285,216	6,096,951	11,543,975	97.7	272,852	980,623	—903,532	—1,811,335
	2 mos.	8,075	18,981,711	2,939,008	24,636,733	3,682,148	5,272,331	577,275	12,632,202	23,578,532	95.7	1,058,201	2,006,270	—1,508,617	—3,655,658
Chicago, Burlington & Quincy	Feb.	8,873	12,605,741	1,035,910	15,139,271	1,725,663	2,421,644	395,850	5,884,757	11,093,577	73.3	4,045,694	1,934,626	1,673,130	1,370,642
	2 mos.	8,873	25,945,713	2,362,692	31,315,149	3,520,160	5,132,709	809,704	12,501,701	23,318,582	74.5	7,996,567	3,987,453	3,130,373	1,922,108
Chicago Great Western	Feb.	1,480	2,349,903	15,825	2,501,848	456,015	284,362	99,336	838,034	1,724,898	68.9	776,950	253,155	288,895	254,201
	2 mos.	1,480	4,787,218	36,636	5,102,687	927,696	589,220	199,688	1,688,027	3,524,965	69.1	1,577,722	501,474	600,729	428,845
Chicago, Indianapolis & Louisville	Feb.	541	1,196,964	91,736	1,367,034	250,459	201,192	67,404	482,090	1,080,494	79.0	286,540	68,303	146,285	23,563
	2 mos.	541	2,364,376	171,758	2,688,362	510,879	465,717	141,433	1,014,088	2,295,492	85.4	392,870	138,965	101,018	56,278
Chicago, Milwaukee, St. Paul & Pacific	Feb.	10,671	13,413,608	1,026,289	15,890,390	2,061,003	3,568,088	395,443	8,213,311	15,040,562	94.7	849,828	1,289,000	—941,544	—598,795
	2 mos.	10,671	27,031,488	2,411,319	32,573,094	4,256,247	7,338,354	790,361	16,930,463	31,022,125	95.2	1,550,969	2,629,000	—2,024,601	—1,921,043
Chicago, Rock Island & Pacific	Feb.	7,619	10,511,494	1,307,941	12,783,147	1,447,559	2,342,403	437,955	5,189,853	10,081,198	78.9	2,701,949	1,100,601	813,794	869,112
	2 mos.	7,619	21,349,000	2,886,268	26,325,390	2,978,773	4,788,102	886,573	10,811,623	20,837,057	79.2	5,488,333	2,366,209	1,549,602	1,968,765
Chicago, St. Paul, Minn. & Omaha	Feb.	1,617	1,988,142	134,542	2,282,398	267,030	350,813	53,409	1,224,872	2,005,412	87.9	276,986	166,672	—20,887	—164,089
	2 mos.	1,617	3,941,502	318,801	4,598,531	568,613	690,322	108,538	2,610,076	4,205,149	91.4	393,382	337,827	—208,025	—371,022
Clinchfield	Feb.	317	1,086,902	888	1,095,734	189,335	246,210	31,365	279,326	774,749	70.7	320,985	157,922	240,150	336,441
	2 mos.	317	2,593,219	2,551	2,613,928	405,270	518,537	65,988	644,968	1,694,651	64.8	919,277	319,707	746,659	681,640

Table continued on next left-hand page.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating Revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equip-ment	Traffic	Trans-portation	Total				1950	1949
Colorado & Southern	Feb.	746	830,276	67,533	970,690	134,151	128,576	26,568	334,487	670,771	69.1	299,919	137,354	95,874	107,983
	2 mos.	746	1,670,565	149,654	1,976,115	266,043	320,412	50,344	726,198	1,457,758	73.8	518,357	247,343	146,641	—41,699
Ft. Worth & Denver City	Feb.	902	1,035,598	84,055	1,205,832	162,008	145,853	37,592	406,570	820,397	68.0	385,435	133,008	191,538	105,518
	2 mos.	902	2,272,439	198,834	2,651,117	320,213	325,413	80,711	848,424	1,714,192	64.7	936,925	331,705	475,377	126,431
Colorado & Wyoming	Feb.	41	83,468	.....	161,250	11,108	18,220	984	67,408	105,980	65.7	55,270	34,590	19,523	46,596
	2 mos.	41	185,117	.....	338,548	21,138	40,049	2,195	146,904	227,315	67.1	111,233	66,872	42,370	94,603
Columbus & Greenville	Feb.	168	152,030	.....	157,364	31,057	29,183	4,311	44,215	125,732	79.9	31,632	19,735	13,228	16,801
	2 mos.	168	296,045	10	307,838	65,931	57,412	8,837	90,330	257,054	83.5	50,784	33,719	21,630	31,135
Delaware & Hudson	Feb.	794	2,987,374	149,799	3,234,487	400,177	874,373	68,036	1,501,697	3,013,123	93.2	221,364	122,701	80,053	376,513
	2 mos.	794	6,835,389	326,413	7,361,841	809,775	1,808,583	136,258	3,162,228	6,259,835	85.0	1,102,006	583,070	518,585	513,958
Delaware, Lackawanna & Western	Feb.	968	3,916,752	745,121	5,100,523	652,810	988,204	150,628	2,613,582	4,623,669	90.7	476,854	330,309	151,768	447,325
	2 mos.	968	8,384,282	1,555,505	10,861,688	1,322,571	2,095,291	342,894	5,416,856	9,622,957	88.6	1,238,731	784,024	453,063	981,756
Denver & Rio Grande Western	Feb.	2,413	3,507,949	174,850	3,857,334	405,232	970,362	138,196	1,507,012	3,249,787	84.3	607,547	372,231	252,606	924,151
	2 mos.	2,413	7,615,525	379,464	8,348,698	853,968	1,978,592	289,993	3,399,321	6,997,668	83.8	1,351,030	758,453	631,758	1,464,030
Detroit & Mackinac	Feb.	232	101,929	911	109,453	30,000	17,618	1,457	27,614	84,859	77.5	24,594	13,440	19,522	30,516
	2 mos.	232	214,869	1,336	231,709	60,000	35,013	3,093	57,985	174,015	75.1	57,694	28,315	41,556	56,916
Detroit & Toledo Shore Line	Feb.	50	534,110	.....	536,181	66,876	36,594	13,105	164,947	292,119	54.5	244,062	77,742	80,003	121,087
	2 mos.	50	1,136,999	.....	1,140,885	130,186	86,606	26,161	344,659	609,345	53.4	531,540	168,501	177,497	253,159
Detroit, Toledo & Ironton	Feb.	464	1,240,019	144	1,264,523	145,608	282,923	22,927	350,483	835,476	66.1	429,047	175,663	195,499	434,369
	2 mos.	464	2,702,823	526	2,759,184	304,793	528,912	46,654	729,088	1,677,893	60.8	1,081,291	423,814	525,606	898,099
Duluth, Missabe & Iron Range	Feb.	564	239,950	761	275,511	535,649	546,359	7,491	420,376	1,581,619	574.1	—1,306,108	73,866	—1,395,776	—1,304,174
	2 mos.	564	405,840	2,585	479,383	1,095,566	1,090,708	15,113	879,613	3,217,482	671.2	—2,738,099	151,305	—2,938,808	—2,946,068
Duluth, South Shore & Atlantic	Feb.	539	472,424	6,104	494,209	93,251	100,122	17,564	182,376	409,491	82.9	84,718	23,262	45,581	—27,147
	2 mos.	539	831,289	15,232	881,764	183,913	196,979	36,553	368,627	818,998	92.9	62,766	47,461	—27,845	—101,643
Duluth, Winnipeg & Pacific	Feb.	175	275,000	600	278,700	53,567	42,777	4,122	139,811	245,735	88.2	32,965	23,181	—25,525	—5,613
	2 mos.	175	544,000	1,300	551,700	98,148	89,598	8,166	296,126	503,281	91.2	48,419	46,703	—83,174	—20,864
Elgin, Joliet & Eastern	Feb.	238	2,604,749	.....	3,301,551	224,728	461,479	27,896	1,116,556	1,926,716	58.4	1,374,835	553,996	578,722	676,640
	2 mos.	238	5,516,055	3	6,893,455	410,136	1,000,402	53,616	2,381,772	4,040,735	58.6	2,852,720	1,155,792	1,245,000	1,390,417
Erie	Feb.	2,231	9,267,415	499,180	10,411,707	1,197,115	1,797,764	313,386	4,601,798	8,475,782	81.4	1,935,925	924,126	852,432	935,422
	2 mos.	2,231	19,705,865	1,071,725	22,077,038	2,445,435	3,909,257	610,572	9,766,863	17,845,545	80.8	4,231,493	2,020,894	1,815,352	1,981,426
Florida East Coast	Feb.	571	1,687,496	985,701	2,889,378	354,491	355,372	58,957	920,045	1,853,459	64.1	1,035,919	313,330	588,403	530,915
	2 mos.	571	3,360,705	1,829,408	5,632,099	767,802	730,916	123,134	1,860,650	3,839,109	68.2	1,792,990	507,770	1,005,910	931,751
Georgia	Feb.	326	517,603	16,476	569,293	85,990	98,500	24,141	274,963	516,611	90.7	52,682	32,440	38,059	22,952
	2 mos.	326	1,074,395	40,049	1,190,906	174,211	206,414	51,378	579,931	1,076,975	90.4	113,931	66,280	82,945	107,800
Georgia & Florida	Feb.	408	198,710	—1	200,593	54,382	30,313	13,926	89,470	198,907	99.2	1,686	15,292	—26,164	—65,329
	2 mos.	408	417,737	14	421,924	111,737	64,047	28,901	187,747	414,505	98.2	7,419	31,203	—47,596	—114,412
Grand Trunk Western	Feb.	971	2,869,000	150,000	3,284,000	528,471	655,183	64,684	1,624,684	3,026,436	92.2	257,564	241,007	—97,396	253,739
	2 mos.	971	6,376,000	314,000	7,209,000	1,075,438	1,408,890	126,678	3,433,009	6,346,132	88.0	862,868	485,747	156,455	260,051
Canadian Nat'l Lines in New Eng.	Feb.	172	151,000	3,000	210,000	48,871	25,923	2,837	106,308	193,307	92.0	16,693	22,478	—43,506	—133,352
	2 mos.	172	296,000	7,800	371,000	106,232	66,730	5,575	245,831	442,693	119.3	—71,693	44,956	—193,003	—246,608
Great Northern	Feb.	8,317	11,095,821	662,085	12,654,519	2,359,888	3,291,548	325,385	5,861,515	12,430,189	98.2	224,330	1,361,441	—1,584,441	—2,346,546
	2 mos.	8,317	20,303,278	1,459,301	23,670,280	4,984,164	6,443,532	645,865	12,095,295	25,392,791	107.3	—1,722,511	2,748,899	—5,076,328	—4,185,565
Green Bay & Western	Feb.	224	257,956	.....	264,443	55,133	35,672	18,062	79,368	200,195	75.7	64,248	12,814	34,752	32,443
	2 mos.	224	553,669	.....	564,050	109,330	65,887	38,210	166,400	406,126	72.0	157,924	51,431	73,475	36,034
Gulf, Mobile & Ohio	Feb.	2,901	4,660,008	391,912	5,436,472	928,369	1,006,790	212,209	1,753,711	4,185,704	77.0	1,250,768	506,621	489,243	536,185
	2 mos.	2,901	9,452,938	791,817	11,076,231	1,890,274	2,095,279	435,606	3,694,948	8,705,952	78.6	2,370,279	969,038	875,315	1,103,645
Illinois Central	Feb.	6,543	14,973,704	1,522,915	18,281,741	2,589,492	3,280,273	427,326	7,037,994	14,182,757	77.6	4,098,984	2,135,052	1,772,889	1,922,203
	2 mos.	6,543	31,417,078	3,294,899	38,477,430	5,405,189	6,818,828	891,494	14,878,801	29,778,195	77.4	8,699,235	4,510,549	3,755,297	3,787,624
Illinois Terminal	Feb.	460	598,257	89,644	779,703	129,155	117,810	35,790	340,681	669,266	85.84	110,437	64,183	45,782	102,016
	2 mos.	460	1,240,661	184,137	1,608,815	262,643	261,248	74,837	731,155	1,419,450	88.23	189,365	129,548	62,921	216,780
Kansas City Southern	Feb.	891	2,730,526	97,115	3,053,970	227,213	401,358	82,402	894,144	1,712,925	56.1	1,341,045	476,000	666,009	720,285
	2 mos.	891	5,686,093	189,908	6,359,945	509,119	754,619	182,833	1,864,038	3,529,688	55.5	2,830,257	981,000	1,454,189	1,591,721
Kansas, Oklahoma & Gulf	Feb.	327	405,795	556	410,252	32,219	29,118	16,432	100,040	195,384	47.6	214,868	93,944	91,088	81,621
	2 mos.	327	836,756	1,156	845,900	62,777	59,578	33,355	214,162	405,640	48.0	440,260	191,793	186,239	194,810
Lake Superior & Ishpeming	Feb.	156	46,430	32	49,040	36,286	47,288	1,588	37,748	132,414	270.0	—83,374	24,193	—97,232	—104,876
	2 mos.	156	96,440	62	101,673	68,850	97,103	3,398	77,663	266,281	261.9	—164,608	48,831	—197,096	—214,047
Lehigh & Hudson River	Feb.	96	182,410	.....	182,873	26,374	26,791	9,107	80,565	151,290	82.7	31,583	13,486	—1,139	9,991
	2 mos.	96	381,570	.....	382,169	56,453	55,545	18,195	164,155	311,944	81.6	70,225	28,239	—256	22,039
Lehigh & New England	Feb.	191	356,888	.....	360,187	60,305	102,973	11,140	132,714	338,798	94.1	21,389	36,951	37,120	47,346
	2 mos.	191	811,215	.....	818,356	145,185	215,210	22,175	284,594	733,024	89.6	85,332	87,572	94,881	126,442
Lehigh Valley	Feb.	1,252	3,966,352	297,019	4,474,150	549,275	915,022	131,675	2,175,164	3,997,769	89.4	476,381	391,165	—82,025	428,359
	2 mos.	1,252	8,469,516	618,708	9,535,371	1,114,494	1,929,369	268,502	4,530,981	8,304,045	87.1	1,231,326	788,497	41,357	760,157
Long Island	Feb.	365	848,694	2,329,280	3,331,024	571,250	706,997	14,579	1,913,081	3,293,962	98.9	37,062	449,840	—665,599	—1,297,747
	2 mos.	365	1,784,652	4,886,465	6,990,589	1,153,242	1,443,813	25,255	4,036,794	6,839,767	97.8	150,822	905,639	—1,291,052	—2,521,511

Table continued on next left-hand page

Slipping DRIVERS
damage Rails *as well as* Tires

CONTROL THIS CONDITION WITH THE THROTTLE MASTER

A-1925

AMERICAN THROTTLE COMPANY
INCORPORATED
60 East 42nd Street, New York 17, N. Y.
122 S. Michigan Avenue, Chicago 3, Ill.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating Revenues			Operating Expenses						Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio			1950	1949
Louisiana & Arkansas	Feb.	756	1,365,000	63,220	1,491,325	198,250	167,215	52,481	450,519	922,925	61.9	568,400	216,248	270,353	224,042
	2 mos.	756	2,878,048	132,699	3,146,830	338,558	348,891	106,416	953,695	1,857,851	59.0	1,288,979	497,387	617,059	461,585
Louisville & Nashville	Feb.	4,780	10,741,489	780,881	12,267,798	2,120,956	2,886,543	269,612	5,323,081	11,118,613	90.6	1,149,185	1,056,691	443,740	1,298,035
	2 mos.	4,780	23,102,303	1,858,012	26,677,259	4,335,219	6,089,486	567,694	11,414,162	23,542,878	88.3	3,134,381	2,664,761	1,433,653	2,657,814
Maine Central	Feb.	981	1,730,893	111,547	1,948,976	353,728	331,287	17,962	732,241	1,498,325	76.9	450,651	189,204	168,773	204,031
	2 mos.	981	3,526,185	235,887	3,989,253	707,067	701,791	39,220	1,458,039	3,038,041	76.2	951,212	424,720	379,713	512,725
Midland Valley	Feb.	334	164,014	2	166,430	27,559	18,011	3,743	51,024	107,843	64.8	58,587	19,535	26,225	17,966
	2 mos.	334	347,699	7	352,821	57,415	33,873	7,813	106,981	221,323	62.7	131,498	39,127	68,595	28,156
Minneapolis & St. Louis	Feb.	1,416	1,192,274	7,655	1,236,089	209,302	216,860	112,363	458,418	1,087,246	88.0	148,843	104,219	35,289	63,663
	2 mos.	1,416	2,467,293	15,245	2,557,489	448,644	478,181	223,838	965,687	2,307,246	90.2	250,243	175,978	64,336	215,742
Minneapolis, St. Paul & S. Ste. Marie	Feb.	3,224	1,934,298	53,632	2,092,306	497,717	547,823	59,343	1,090,453	2,294,506	109.7	—202,200	185,497	—4,417,710	—618,978
	2 mos.	3,224	3,798,187	130,909	4,150,854	978,532	1,041,933	124,148	2,308,631	4,656,227	112.2	—505,373	370,859	—957,756	—1,143,178
Mississippi Central	Feb.	148	163,179	—19	166,474	36,355	25,425	11,514	48,305	130,355	78.3	36,119	15,604	11,745	15,751
	2 mos.	148	342,290	130	349,672	76,396	50,017	24,812	101,300	270,265	77.3	79,407	33,017	25,895	28,737
Missouri-Illinois	Feb.	172	331,773	187	333,932	57,126	49,709	6,499	85,917	203,210	60.9	130,722	72,510	55,843	73,253
	2 mos.	172	696,495	453	701,114	106,832	105,572	14,073	176,575	415,541	59.3	285,573	157,672	125,766	155,566
Missouri-Kansas-Texas	Feb.	3,253	4,661,800	313,193	5,396,747	783,154	762,983	222,617	2,049,413	4,068,660	75.4	1,328,087	545,575	495,811	441,474
	2 mos.	3,253	9,511,939	695,057	11,087,056	1,632,788	1,605,695	441,741	4,255,211	8,477,419	76.5	2,609,637	1,088,859	965,031	729,460
Missouri Pacific	Feb.	6,969	12,512,285	791,471	14,649,718	2,172,700	2,687,949	383,738	5,923,803	11,699,736	79.9	2,949,982	914,422	1,483,714	1,713,108
	2 mos.	6,969	25,628,980	1,677,765	30,055,843	4,340,426	5,601,356	787,085	12,365,843	24,189,015	80.5	5,866,828	1,859,609	2,897,188	3,225,326
Gulf Coast Lines	Feb.	1,711	3,102,045	79,243	3,331,122	599,484	421,269	76,946	1,030,807	2,247,989	67.5	1,083,133	322,551	488,066	516,309
	2 mos.	1,711	6,697,400	155,469	7,150,671	1,198,487	861,918	148,816	2,173,421	4,628,762	64.7	2,521,909	753,236	1,161,043	1,116,455
International-Great Northern	Feb.	1,110	2,064,593	134,433	2,430,168	424,801	415,849	49,695	950,709	1,943,291	80.0	486,877	147,067	245,632	68,389
	2 mos.	1,110	4,516,203	319,772	5,317,762	914,506	850,333	98,919	1,957,440	4,037,319	75.9	1,280,443	368,735	644,173	279,039
Monongahela	Feb.	170	29,429	370	33,228	45,602	26,202	873	69,946	150,054	451.6	—116,826	24,621	—158,181	49,054
	2 mos.	170	188,661	875	196,909	94,682	71,203	1,841	180,062	359,611	182.6	—162,702	52,759	—280,427	140,753
Montour	Feb.	51	43,678	.....	43,762	8,688	30,337	796	20,516	69,593	159.0	—25,831	16,458	14,984	52,457
	2 mos.	51	136,920	.....	139,224	21,382	78,102	1,615	63,272	183,584	131.9	—44,360	44,512	45,020	116,537
Nashville, Chattanooga & St. Louis	Feb.	1,049	2,058,136	117,157	2,439,515	377,284	328 837	93,422	915,646	1,816,127	74.4	623,388	303,354	291,345	224,387
	2 mos.	1,049	4,186,308	271,076	4,995,654	728,883	643,177	202,939	1,884,733	3,663,197	73.3	1,332,457	634,254	644,794	500,057
New York Central	Feb.	10,735	34,132,849	7,892,275	47,124,109	6,105,996	11,493,844	992,527	23,786,376	45,197,511	95.9	1,926,598	4,184,886	—3,341,107	3,073,945
	2 mos.	10,735	74,882,635	18,140,777	103,849,896	12,959,340	24,080,615	1,962,837	50,901,559	95,747,960	92.2	8,101,936	8,739,150	—3,426,746	4,767,636
Pittsburgh & Lake Erie	Feb.	221	2,054,976	62,833	2,202,898	263,723	709,298	66,021	1,022,935	2,230,810	101.3	—27,912	292,341	217,246	741,483
	2 mos.	221	4,728,038	143,840	5,072,949	576,722	1,468,393	135,607	2,147,117	4,675,435	92.2	397,514	763,801	774,217	1,504,642
New York, Chicago & St. Louis	Feb.	2,192	8,795,495	117,244	9,171,314	1,374,904	1,381,444	295,546	3,128,923	6,533,595	71.2	2,637,719	1,180,597	1,382,037	1,844,820
	2 mos.	2,192	18,436,245	241,585	19,233,049	2,894,533	3,077,307	585,957	6,723,094	14,017,645	72.9	5,215,404	2,346,668	2,673,363	3,759,576
New York, New Haven & Hartford	Feb.	1,796	6,311,147	3,575,739	10,846,269	1,350,477	1,631,974	198,078	4,726,309	8,563,199	79.0	2,283,070	831,000	671,259	487,509
	2 mos.	1.796	13,391,500	7,436,532	22,779,893	2,745,290	3,373,657	414,942	9,883,818	17,789,050	78.1	4,990,843	1,676,000	1,693,708	1,178,427
New York Connecting	Feb.	21	202,352	.....	209,171	60,766	41,631	.....	56,925	161,726	77.3	47,445	67,519	—2,388	—29,487
	2 mos.	21	433,192	.....	446,573	114,243	59,345	.....	116,680	295,280	66.1	151,293	129,127	72,859	52,506
New York, Ontario & Western	Feb.	544	403,865	1,666	431,617	78,506	85,753	24,217	255,652	471,964	109.3	—40,347	36,033	—138,970	—117,748
	2 mos.	544	878,788	2,924	941,092	179,036	173,733	49,463	537,555	997,853	106.0	—56,761	73,319	—263,214	—217,691
New York, Susquehanna & Western	Feb.	120	323,093	36,743	371,075	43,910	51,868	6,609	160,450	285,340	76.9	85,735	29,841	35,891	—11,245
	2 mos.	120	691,102	77,210	791,490	85,724	101,509	12,956	328,884	575,278	72.7	216,212	61,040	101,925	22,695
Norfolk & Western	Feb.	2,129	6,340,792	309,456	7,053,479	1,640,896	2,200,561	239,790	3,157,679	7,710,832	109.3	—657,353	338,356	—672,747	2,071,198
	2 mos.	2,129	17,343,360	692,433	18,906,965	3,661,502	4,874,879	478,474	7,230,813	17,243,123	91.2	1,663,842	2,101,587	812,309	4,730,415
Norfolk Southern	Feb.	683	626,661	757	642,891	149,642	90,387	40,029	219,382	555,756	86.4	87,135	40,047	19,054	38,450
	2 mos.	683	1,369,451	1,403	1,409,097	298,666	191,024	83,688	466,249	1,151,924	81.7	257,173	117,686	82,233	96,741
Northern Pacific	Feb.	6,889	7,958,932	354,576	9,002,069	1,854,183	2,550,183	238,310	4,400,121	9,594,886	106.6	—592,817	1,087,631	—1,220,245	—1,172,422
	2 mos.	6,889	15,119,024	856,032	17,451,092	3,703,938	4,979,886	480,863	9,172,448	19,498,093	111.7	—2,047,001	2,235,290	—3,363,824	—2,588,703
Northwestern Pacific	Feb.	331	648,858	3,415	670,085	144,882	72,300	4,389	300,181	534,478	79.8	135,607	38,991	44,359	—86,327
	2 mos.	331	1,192,333	8,546	1,238,334	331,730	157,252	8,439	603,689	1,128,341	91.1	109,993	80,026	—75,230	—189,899
Oklahoma City-Ada-Atoka	Feb.	132	82,620	.....	83,503	19,041	4,121	1,389	20,638	48,898	58.6	34,605	13,451	9,053	6,679
	2 mos.	132	161,326	.....	163,162	35,008	8,165	2,967	41,054	94,772	58.1	68,390	26,400	14,488	15,478
Pennsylvania	Feb.	10,118	40,042,188	10,423,523	55,750,288	6,858,690	12,900,692	1,170,740	28,438,273	52,100,097	93.5	3,650,191	4,676,290	—2,324,096	1,944,545
	2 mos.	10,118	87,438,834	23,878,639	122,511,154	14,346,358	26,643,075	2,320,802	58,412,859	107,292,923	87.6	15,218,231	10,003,491	2,629,496	7,272,438
Pennsylvania-Reading Seashore Lines	Feb.	386	374,928	95,324	485,758	168,075	248,713	9,307	468,762	920,016	189.4	—434,258	84,852	—620,442	—537,247
	2 mos.	386	771,209	214,920	1,019,584	350,434	493,936	19,122	984,616	1,906,152	187.0	—886,568	171,721	—1,271,915	—1,066,232
Pittsburg & Shawmut	Feb.	97	56,645	.....	57,052	13,663	27,683	2,653	21,369	73,565	128.9	—16,513	3,654	—8,625	41,573
	2 mos.	97	216,707	.....	217,634	30,960	65,202	5,416	67,166	185,383	85.2	32,251	8,785	33,937	76,744

Table continued on next left-hand page

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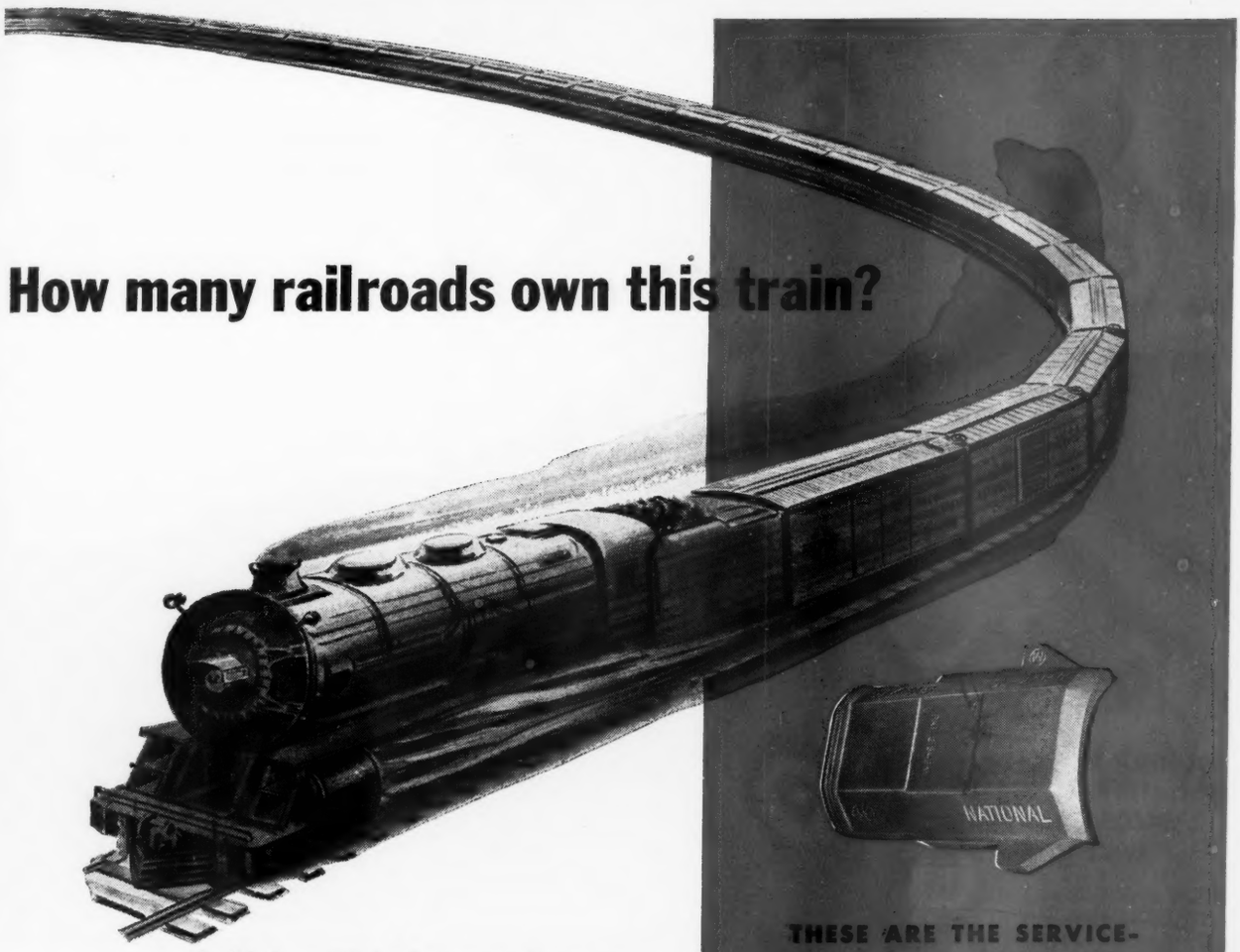
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating Revenues			Operating Expenses						Net from railway operation	Railway tax accruals	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio			1950	1949
Pittsburgh & West Virginia	Feb.	132	479,470	.....	497,554	94,546	117,744	39,972	135,336	419,728	84.4	77,826	42,863	64,851	117,687
	2 mos.	132	1,032,860	.....	1,070,291	192,277	242,391	81,644	285,418	873,407	81.6	196,884	107,771	157,316	273,497
Reading	Feb.	1,317	6,022,308	460,479	6,888,834	1,044,846	1,723,314	131,506	3,229,554	6,409,007	93.0	479,827	230,697	344,295	737,615
	2 mos.	1,317	13,540,146	995,390	15,383,417	2,119,527	3,648,459	264,408	6,929,568	13,524,830	87.9	1,858,587	957,806	974,478	1,412,914
Richmond, Fredericksburg & Potomac	Feb.	118	1,057,646	504,246	1,837,770	177,294	293,219	17,971	664,773	1,282,124	69.8	555,646	243,052	215,983	16,355
	2 mos.	118	2,210,945	1,082,585	3,791,414	376,913	594,476	36,086	1,425,478	2,683,772	70.8	1,107,642	497,382	417,622	69,925
Rutland	Feb.	407	292,649	25,940	369,975	66,953	80,928	12,402	225,365	400,970	108.4	—30,995	25,077	—76,507	—80,608
	2 mos.	407	630,449	60,260	800,338	143,593	163,288	25,630	480,456	846,153	105.7	—45,815	55,176	—143,861	—225,177
Sacramento Northern	Feb.	271	159,676	.....	164,958	52,719	14,923	2,023	55,951	132,789	80.5	32,169	10,762	7,880	—92,613
	2 mos.	271	312,637	344	321,528	105,472	31,270	4,575	121,427	277,458	86.3	44,070	22,956	—10,109	—168,035
St. Louis-San Francisco	Feb.	4,645	6,887,479	435,434	7,853,483	1,396,799	1,425,498	222,530	3,055,524	6,476,209	82.5	1,377,274	711,903	635,194	591,788
	2 mos.	4,645	13,960,066	936,830	16,015,939	2,664,015	2,908,437	461,955	6,369,656	13,369,532	83.5	2,646,407	1,426,495	1,209,980	1,094,768
St. Louis, San Francisco & Texas	Feb.	159	284,807	12,389	311,654	49,882	31,183	14,975	137,225	242,964	78.0	68,690	13,333	—2,022	44,581
	2 mos.	159	550,264	19,383	601,866	94,615	68,701	30,191	266,584	479,712	79.7	122,154	26,679	—18,404	46,846
St. Louis Southwestern	Feb.	1,569	4,090,419	32,921	4,286,999	646,675	540,596	137,424	1,419,242	2,906,890	67.8	1,380,109	553,111	607,881	744,262
	2 mos.	1,569	8,336,542	71,085	8,747,020	1,134,676	1,115,584	274,602	2,908,073	5,775,038	66.0	2,971,982	1,226,749	1,295,780	1,477,363
Seaboard Air Line	Feb.	4,146	8,501,000	1,409,314	10,642,810	1,796,622	1,846,411	314,159	3,819,487	8,273,021	77.7	2,369,789	1,038,387	1,002,115	859,938
	2 mos.	4,146	17,400,538	2,934,962	21,876,378	3,546,069	3,829,315	634,847	7,979,576	17,011,034	77.8	4,865,344	2,131,115	2,078,906	1,955,329
Southern	Feb.	6,347	13,874,917	1,345,330	16,377,045	2,399,856	3,175,091	348,046	6,084,907	12,716,258	77.6	3,660,787	1,700,497	1,667,082	1,212,854
	2 mos.	6,347	28,700,710	2,857,449	34,031,226	4,876,097	6,392,304	693,253	12,756,036	26,191,346	77.0	7,839,880	3,586,856	3,588,591	2,437,373
Alabama Great Southern	Feb.	316	1,163,931	75,784	1,330,098	177,891	246,053	27,418	476,334	978,724	73.6	351,374	183,430	164,344	120,319
	2 mos.	316	2,255,809	190,580	2,638,708	378,480	505,737	53,995	943,658	1,988,580	75.4	650,128	363,773	304,630	250,093
Cinn., New Orleans & Texas Pacific	Feb.	337	2,617,115	205,776	2,968,525	381,366	517,661	54,540	917,227	1,985,312	66.9	983,213	456,066	479,592	396,871
	2 mos.	337	5,187,810	437,039	5,936,665	752,216	1,074,189	110,335	1,841,460	4,006,087	67.5	1,930,578	929,845	987,031	888,595
Georgia Southern & Florida	Feb.	397	469,475	94,197	623,346	138,527	46,862	6,917	188,700	402,645	64.6	220,701	50,150	52,648	27,109
	2 mos.	397	942,045	188,541	1,249,077	266,618	86,074	12,738	385,879	794,621	63.6	454,456	104,727	117,647	54,265
New Orleans & Northeastern	Feb.	204	686,949	47,729	777,932	133,427	91,405	16,485	227,261	504,889	64.9	273,043	117,670	109,479	106,490
	2 mos.	204	1,402,294	116,699	1,609,054	276,368	202,855	32,527	448,056	1,035,508	64.4	573,546	249,807	221,153	269,311
Southern Pacific	Feb.	8,142	23,828,436	2,498,401	28,148,768	3,879,543	6,450,827	668,388	11,304,831	23,937,558	85.0	4,211,210	2,394,441	1,064,701	764,352
	2 mos.	8,142	47,597,768	5,486,841	56,989,846	7,840,572	13,108,069	1,347,990	23,743,257	49,471,203	86.8	7,518,643	4,852,351	1,237,829	—794,335
Texas & New Orleans	Feb.	4,316	7,993,240	545,491	9,094,993	1,497,357	1,428,388	204,548	3,331,692	6,907,244	75.9	2,187,749	1,166,606	485,001	1,144,787
	2 mos.	4,316	16,553,867	1,166,253	18,910,453	3,175,545	2,981,538	412,565	6,879,770	14,352,928	75.9	4,557,525	1,915,549	1,588,615	2,103,826
Spokane International	Feb.	152	146,686	792	158,830	40,149	14,781	3,918	49,372	116,258	73.2	42,572	9,661	25,618	—41,102
	2 mos.	152	239,303	1,960	265,970	90,380	32,341	8,194	99,274	247,184	92.9	18,786	20,351	—20,935	—97,267
Spokane, Portland & Seattle	Feb.	945	1,548,002	60,793	1,704,824	305,002	224,330	21,005	657,375	1,278,604	75.0	426,220	162,815	203,404	37,905
	2 mos.	945	3,019,096	149,878	3,368,465	748,700	462,743	42,053	1,347,399	2,753,839	81.8	614,626	329,635	141,004	98,614
Tennessee Central	Feb.	286	288,549	783	304,577	67,440	51,919	8,818	120,369	265,018	87.0	39,559	22,828	—10,809	27,513
	2 mos.	286	659,791	1,931	694,852	130,488	105,812	18,992	248,870	537,796	77.4	157,056	46,257	49,070	33,361
Texas & Northern	Feb.	8	36,509	.....	45,243	1,794	4,104	288	13,402	23,624	52.2	21,619	5,735	7,252	20,894
	2 mos.	8	81,276	.....	98,787	4,157	7,557	505	27,576	49,548	50.2	49,239	13,675	17,935	48,822
Texas & Pacific	Feb.	1,846	4,217,071	312,210	4,881,423	758,400	745,773	156,809	1,748,929	3,678,591	75.4	1,202,832	295,189	580,007	507,392
	2 mos.	1,846	8,678,490	698,146	10,136,312	1,514,620	1,571,422	319,345	3,635,582	7,584,573	74.8	2,551,739	694,099	1,198,393	1,104,398
Texas Mexican	Feb.	162	241,530	.....	263,931	46,967	20,888	7,136	50,148	140,008	53.0	123,923	45,888	55,781	32,526
	2 mos.	162	502,951	.....	550,821	110,021	36,649	11,752	108,408	296,665	53.9	254,156	101,038	114,414	82,965
Toledo, Peoria & Western	Feb.	239	367,993	2	370,257	59,099	32,071	32,118	93,787	238,893	64.5	131,364	46,542	53,459	60,532
	2 mos.	239	773,168	6	778,128	93,530	62,243	67,419	196,922	465,295	59.8	312,833	112,980	136,259	135,949
Union Pacific	Feb.	9,719	22,961,514	2,056,792	27,163,394	3,374,111	5,605,820	708,479	10,489,544	21,839,603	80.4	5,323,791	3,564,293	972,797	—7,216,215
	2 mos.	9,720	47,526,911	4,679,658	56,735,136	7,159,390	11,871,476	1,549,205	22,237,620	46,308,958	81.6	10,426,178	6,935,880	1,574,482	—9,162,731
Utah	Feb.	111	25,586	.....	25,623	14,948	46,352	652	25,077	94,553	369.0	—68,930	10,943	—69,117	—18,197
	2 mos.	111	143,066	.....	143,134	36,772	94,542	1,452	83,789	231,718	161.9	—88,584	23,083	—90,893	—31,117
Virginian	Feb.	661	725,672	1,401	763,314	265,639	399,237	37,288	345,226	1,115,238	146.1	—351,924	—73,600	—214,354	791,051
	2 mos.	661	2,804,789	4,005	2,892,344	571,446	879,192	75,539	882,076	2,551,419	88.2	340,925	292,600	267,693	1,663,749
Wabash	Feb.	2,393	6,443,821	314,194	7,241,044	912,924	1,036,155	249,386	3,214,768	5,594,142	77.3	1,646,902	637,816	552,141	590,833
	2 mos.	2,393	13,174,416	698,827	14,848,481	1,914,708	2,173,411	500,145	6,599,373	11,691,546	78.7	3,156,935	1,277,781	986,660	1,190,687
Ann Arbor	Feb.	294	610,747	1,103	619,122	68,501	92,347	21,914	305,905	498,536	80.5	120,586	41,451	56,308	58,181
	2 mos.	294	1,266,994	2,265	1,286,207	136,769	203,338	45,912	662,029	1,074,341	83.5	211,866	12,922	156,183	115,923
Western Maryland	Feb.	837	1,961,226	5,833	2,090,201	327,255	487,391	69,956	757,647	1,772,120	84.8	318,081	192,000	195,371	763,697
	2 mos.	837	4,458,009	12,964	4,723,006	679,714	1,078,399	141,180	1,686,759	3,859,388	81.7	863,618	475,000	568,696	1,494,126
Western Pacific	Feb.	1,195	2,960,372	144,732	3,166,648	461,534	496,977	155,905	1,032,635	2,297,337	72.5	869,311	383,739	404,390	—146,100
	2 mos.	1,195	5,763,079	334,458	6,220,588	887,172	1,027,501	287,018	2,163,595	4,686,750	75.3	1,533,838	695,344	699,929	—303,428
Wisconsin Central	Feb.	1,051	1,794,002	20,722	1,905,237	244,937	361,133	54,392	828,425	1,565,752	82.2	339,485	119,722	75,130	101,310
	2 mos.	1,051	3,566,612	52,981	3,813,839	491,030	691,235	113,597	1,720,567	3,179,827	83.4	634,012	251,199	89,849	117,337

How many railroads own this train?



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A recent study of 6 roads—picked at random—proved that out of every 100 freight cars operated, *from 55% to 83% were foreign!* Think of the resulting interchange problem. Service and maintenance require a tremendous degree of standardization when 8 out of 10 cars belong to other roads. *Free interchange is another basic reason why railroads have so completely standardized on the Solid Journal Bearing . . . for simple, fast, economical maintenance and inspection.* Performance? The performance records of Solid Journal Bearings speak for themselves—with as high as *6½ Million bearing miles per car set-out!* These performance records are unequalled—and they're constantly being improved. Year after year shows a steady increase in speeds, loading and daily car mileage. That's why railroads will continue to find the answer to dependability, ease of maintenance, operating economy and free interchange in the Solid Journal Bearing.

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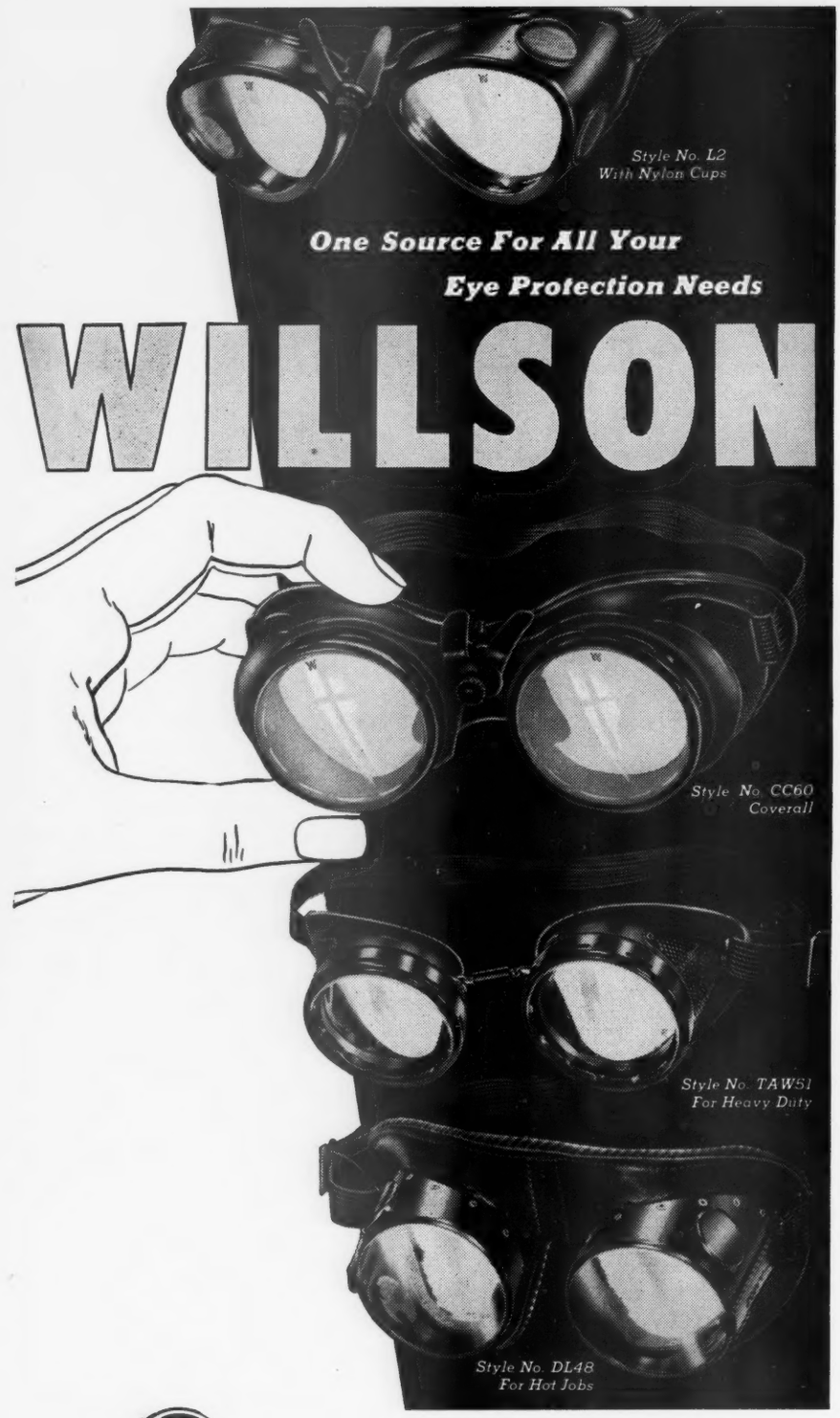

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GENERAL NEWS

(*Continued from page* 68)

Southern Rate-Pact Hearing Now Scheduled for May 22

The Interstate Commerce Commission has postponed, from April 19 to May 22, the Washington, D. C., hearing it will hold in connection with its consideration of the Bulwinkle-Act agreement filed by southern railroads.

N. & W. on "Cavalcade Of America"

How the Norfolk & Western was built across the Great Dismal swamp in Virginia will be dramatized on Du Pont's "Cavalcade of America" over the National Broadcasting Company network on April 25, at 8 p.m., Eastern standard time. William Holden and Brenda Marshall will play the leading roles.

Yardmasters 40-Hr. Case Goes to Emergency Board

President Truman has issued an executive order creating an emergency board to investigate the dispute involving the demand of the Railroad Yardmasters of America for a 40-hr. work week of five days for its members. The President's action had the effect of postponing a strike set for April 12 by the union, which claims to represent about 5,000 of the nation's 6,500 yardmasters and assistant yardmasters.

Congressman Celler Attacks Equitable Car Leasing Plan

In statements issued on March 28 and April 5, Emanuel Celler, Democratic Congressman from New York, sharply attacked the plan recently announced by the Equitable Life Assurance Society to purchase freight cars for lease to railroads. (See *Railway Age* of April 1, page 61.)

Mr. Celler emphasized that he was not criticizing railroads for using the plan. "Standing by itself," he said in part, "this proposal appears sound and should be most helpful to the railroads. . . [They] would be foolish indeed not to take advantage of these offers."

He, however, said it was "not looking for ghosts under the bed" to predict that the insurance companies—which he described as "already involved in numerous types of business"—would "practically control the railroads." He also raised a question as to the "security" of such investments "in view of the railroad situation." It is his "intention," he said, to introduce "appropriate legislation" for federal regulation of insurance companies.

M. P. Holds "Family" Traffic Conference at St. Louis

Approximately 200 traffic representatives of the Missouri Pacific from all parts of the United States, Cuba and

Mexico, assembled at St. Louis, Mo., April 11 for the road's biennial freight and passenger traffic "family" conference. Continuing through April 14, the sessions were held under direction of H. L. Schaeffer, chief traffic officer of the railroad.

The first three days of the conference were devoted to separate discussions of freight and passenger problems, with forecasts of future developments in each field. C. L. Butler, general freight traffic manager, M. P. Eckman, freight traffic manager, and E. J. Falk, freight traffic manager, Texas lines, were in charge of the freight sessions. R. J. McDermott, general passenger traffic manager, presided at the passenger traffic meetings. The final day was devoted to a joint meeting of freight and passenger traffic representatives.

1949 Tonnage of Intercity Truckers Up 4.4% from '48

Class I intercity truckers, both common and contract carriers, transported in 1949 4.4 per cent more tons of freight than in 1948, according to figures compiled by the Department of Research of American Trucking Associations. Last year's business established an "all-time record," A.T.A. said, noting that its truckloading index (based on 1941 as 100) was up to 179, an 8-point rise above 1948's 171, the previous high.

On a regional basis, the 1949 tonnages were above those of the previous year in 7 of the 9 regions, the range of increases having been from 0.8 per cent in the Northwestern region to 14.2 per cent in the Southern region. The declines were in the New England and Pacific regions —5.3 per cent and 3.4 per cent, respectively.

C. & E. I. to Open Washington Office

A new freight and passenger office will be opened soon in Washington, D. C., by the Chicago & Eastern Illinois. Clair M. Roddewig, president of the C.&E.I., said the road has experienced a rising demand for freight and passenger services emanating from the Washington area, and the new office would permit more adequate handling of the new traffic.

W. H. Peake, Jr., formerly with the Pennsylvania, has been named general agent in charge of the new office, which will be located in the Investment building at 15th and "K" streets, N.W.

C. & N. W. to Introduce "Dakota 400"

A new streamlined train, the "Dakota 400," will be introduced by the Chicago & North Western on April 30, according to President R. L. Williams. Diesel-powered, with coaches, parlor car and cafe-lounge, the new train will operate between Chicago and Huron, S.D., via Madison, Wis., Rochester, Minn., and Mankato. Leaving Chicago at 9:45 a.m., the "Dakota 400" will complete its 653-mi. trip to Huron at 11:59 p.m. Eastbound, the new train will arrive in Chicago at 7:45 p.m. in time for connections

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CAPACITY: 2,000 lbs. on 15" load center.
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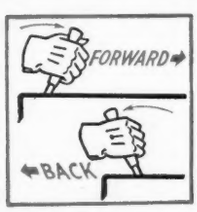

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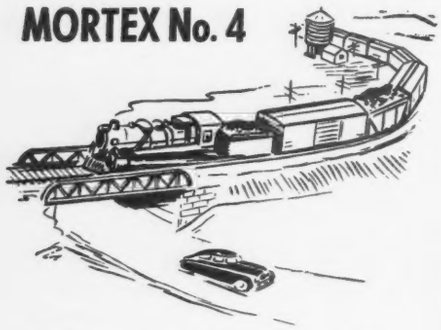

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One application of this tested coating is far superior to paints and cut-back asphalt products. It's the most practical, low-cost rust preventive for roofs, interiors and underframes of steel freight and refrigerator cars, covered hopper cars used for soda ash, lime and similar products, ice bunkers and equipment exposed to acid fumes and gases.

It's tops for steel bridges, cooling system ducts and sumps, outside storage tanks, tool houses and bins.

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TRY IT YOURSELF

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with important east and southbound trains.

Replacing the present "Minnesota 400," which operates only between Wyeville, Wis., (where it connects with the "Twin Cities 400") and Mankato, the new train will also carry a sleeping car for Rapid City, S. D., and the Black Hills, which will be transferred to the road's "Black Hills Express" at Huron.

Introduction of the new train has been made possible by delivery of equipment ordered four years ago. Similar in most respects to equipment on other "400" streamliners, the cars feature foam-cushion seats and individual lighting for both coach and parlor car passengers. The cafe-lounge will be decorated with murals typifying scenes of the area the train will serve.

Map Digest of Rate Increases

The Chicago & Eastern Illinois' traffic department has prepared for the benefit of shippers a "map digest" which, by cross-reference symbols, enables the user to check percentage changes in basic railroad freight rates since June 30, 1946, between any two of 25 origin and destination groupings, according to H. R. Sampson, vice-president. Thus, for example, if the shipper desires to check a rate from a point in Tennessee to a point on the main line of the C.&E.I., he refers to No. 16 on the "down" column and No. 15 on the "across" column, to find the reference symbol "B," which states that, compared with June 30, 1946, levels, present basic rates between the two areas are 25, plus 30, plus 10 per cent.

Appended to this check map are several pages of condensed summary information on each of the general rate increases. The map and check list were prepared by W. F. Custer, C.&E.I. rate and division clerk.

Roads Meet Competition On Haul from Chicago

Acting on a petition filed by western roads, the Interstate Commerce Commission has authorized a reduction in the rate on iron and steel storage-tank materials moving from the Chicago area to Superior, Wis., for the period ending November 30. The new rate, which is 45 cents per 100 pounds as compared with the old rate of 69 cents, was proposed to meet lake carrier competition during an anticipated 5,800-ton movement of the materials to Superior. In their petition, the railroads said the rate for such commodities via lake carrier was $8.32 a net ton, including rail switching at both terminals. The new rail rate will amount to $9.00 a net ton.

A pipeline is being constructed from Edmonton, Alta., and petroleum will be transported to Superior via this line. Storage facilities are being constructed at Superior where the oil will be held for subsequent lake movement. Construction of the storage tanks is expected to be completed early in 1951. The railroad petition said the roads had been informed that a contract for fabrication of 5,800 tons of the tank material had been awarded at Chicago, but added that only by publishing the lower rate could they participate in the movement.

The Sheffield Steel Corporation of Dallas, Tex., and certain North Dakota interests intervened in the case to ask that a specific expiration date be set if the commission granted the relief sought by the railroads. Both intervenors expressed fear that a "demoralization" of the iron and steel rate structure might result if the I.C.C. grants specific exemptions such as in this case.

Bulwinkle-Act Pacts Approved by the I.C.C.

Two additional Bulwinkle-Act agreements have recently been approved by Division 2 of the Interstate Commerce Commission, despite protests of the Department of Justice. They are agreements among 2,200 motor carriers comprising the membership of the Household Goods Carriers' Bureau, and among 12 water carriers on inland waterways, including the government-owned Inland Waterways Corporation, which are members of the Waterways Freight Bureau. The commission proceedings involved were docketed, respectively, as Section 5a Application No. 1, and Section 5a Application No. 10.

Waterborne Commerce Rises to New All-Time High

Rivers and harbors of the United States improved by Army engineers carried 791,600,000 net tons of waterborne commerce during the calendar year 1948, according to figures compiled from all sources by the Board of Engineers for Rivers and Harbors.

The 1948 total is a new all-time high. It is 25 million tons larger than the 1947 total, nearly 200 million tons above the traffic of World War II years, and double the volume of the early 1920's. Aggregate 1948 ton-mileage of freight on inland waterways was almost 162 billion ton-miles. The Great Lakes accounted for the major share, with the Mississippi River network in second place.

Compilation in a 25-page pamphlet of key 1948 waterborne commerce statistics is a new undertaking this year to make figures available prior to their customary release in annual report form. The pamphlet is available, on written request, at the Board of Engineers for Rivers and Harbors, Building T-7, Gravelly Point, Washington 25, D. C.

I.C.C. Will Investigate Illinois Rates on Coal

The Interstate Commerce Commission has instituted an investigation to determine whether discrimination against interstate commerce has resulted from refusal of the Illinois Commerce Commission to approve application of the Ex Parte 166 and Ex Parte 168 increases to intrastate rates on coal from points in southern Illinois to destinations in the northern part of the state. The investigation, instituted at the request of Illinois railroads, is docketed as No. 30540.

Current Publications

PERIODICAL ARTICLES

The Southern Pacific and the Public Eye. Business Week, March 11, 1950, pp. 22-24. Published by McGraw-Hill Publishing Company, 330 W. 42nd st., New York 18. Single copies, 25 cents.

"There is hardly an adult Californian alive who, sometime or other, hasn't ground his way up a long hill behind a truck—to be taunted at the top by a Southern Pacific poster reading 'Next Time Try the Train.' Usually he just grins. But the message, S.P. is sure, sinks in." With this introduction Business Week discusses S.P. advertising and promotion material designed to improve passenger relations and make friends for the railroad.

Management Must Manage, by Peter F. Drucker. Harvard Business Review, March, 1950, pp. 80-86. Published at Gallatin House, Soldiers Field, Boston 63, Mass. Single copies, $1.50

The arguments in this article summarize some of the discussion in Mr. Drucker's forthcoming book "The New Society; the Anatomy of Industrial Order," to be published by Harper & Bros. in April. He argues that management can be accused of managing too much within the plant—in fields such as recreational activities, educational work, arrangement of vacation schedules, etc.—and of "managing" far too little beyond the four walls of the shop. Suggestions for management to consider in this larger field include the need for long-range planning of union relations instead of handling them on an emergency basis as they have been handled; anticipation of social pressures; development of personnel, not only at the top-level, but at the foremanship level; consideration of plant location as it affects the local community; and conservation of human resources.

1950 Annual Safety Equipment Issue, National Safety News, March, 1950. Published by the National Safety Council, 20 North Wacker drive, Chicago 6. Single copies, 50 cents to members; 75 cents to non-members.

This, the 14th annual safety equipment issue, is divided into seven sections—plant design, construction and maintenance; personal protection; handling materials; machine guarding and operation; plant protection; medical and health service; and safety services. This issue will also serve as a buyers' guide, for, in addition to the information in the editorial pages, there is a directory of advertisers, a classified product section and an index of advertised products.

Caboose Aristocrat, by Eli Waldron. Holiday Magazine, April, 1950, page 90. Published by the Curtis Publishing Company, Independence square, Philadelphia 5, Pa. Single copies, 50 cents.

This well-illustrated article sets forth the impressions of a non-railroader who rides the caboose of a Chicago, Burlington & Quincy local freight train and studies the environment and character of the men responsible for its daily conduct.

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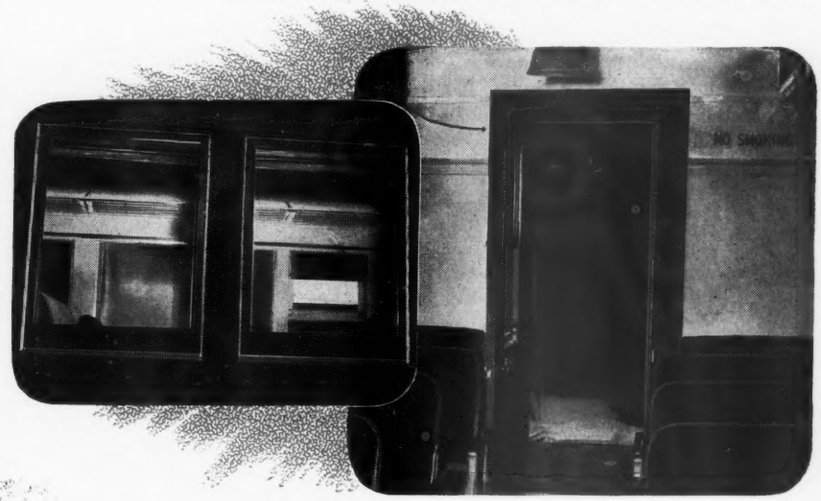

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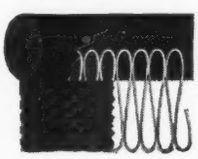

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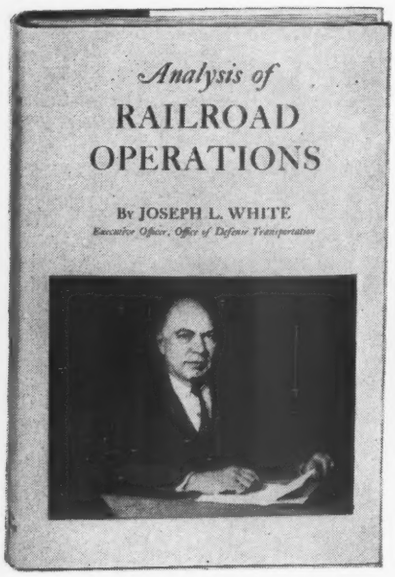

2nd Ed. 324 pages, 87 illus., 29 tables, 5 charts, index, 6 x 9, cloth, $5.00

Analysis of RAILROAD OPERATIONS

By JOSEPH L. WHITE
Formerly Executive Officer, Office of Defense Transportation

This book is a guide through the intricacies of railroad accounts. It is the only authoritative work on the interpretation of operating statistics. It shows how to analyze the figures so as to determine whether a department is being operated efficiently and whether operations for the railroad as a whole are on a profitable basis.

Without going into the details of accounting procedure the accepted methods of interpreting statistical data are clearly set forth. Each chapter delves into an intricate phase of railroad accounts or statistics, analyzes its meaning and points out its significance in relation to net operating results. In the final chapter a comparative analysis is made of the operating results of two large railroads based on their reports to the Interstate Commerce Commission which are available to the public. One is a steam railroad which derives most of its operating revenues from heavy freight traffic. The other is partly electrified and earns a large revenue from passenger traffic.

"The work should be interesting and useful to anyone who undertakes to study and interpret railroad reports and statistics—particularly railroad executives, investment analysts, and economists."—*The New York Certified Public Accountant.*

"From these data the author suggests methods by which the analyst may compare one operation with another, or the operation of one period with operations in another period, or diagnose the symptons of efficiency or inefficiency or of favorable or unfavorable characteristics which are revealed by these data. The method is useful for both quantitative and qualitative analysis, and for past, present and future periods."—*The Annals of the American Academy.*

A Complete Guide

For the inexperienced this book tells where to begin, where to find the information wanted and how to compile it. The experienced analyst will find in it many helpful hints and short cuts. Railroad executives and operating officers as well as department heads who may be called on to explain accounting figures reflecting on departmental activities, will find in it information they need. Railroad economists and statisticians can make use of the methods outlined.

Contents

Introduction—General Principles of Railroad Accounting—The Income Statement — Railway Operating Statistics — Railway Operating Revenues—Statistics of Freight and Passenger Service—Causes of Fluctuations in Operating Revenues—Railway Operating Expenses—Relation of Expenses to Revenues—Maintenance of Way and Structures—Unit Cost of Maintaining Road Property—Maintenance of Equipment—Account 314, Freight Train Cars-Repairs—Unit Costs of Maintaining Equipment—Budgetary Control of Maintenance Expenses—Transportation and Miscellaneous Operations—Unit Costs of Operation—Statistics of Utilization of Equipment—Control of Transportation Expenses Through Current Reports—Traffic and General Expenses, Taxes and Rents—Analysis of Actual Operations of Two Class I Railways in 1941—Appendix A: The Accomplishments of the United States Railroad Administration in Unifying and Standardizing the Statistics of Operation, by William J. Cunningham, Assistant Director of Operation, United States Railroad Administration (1919). Appendix B: Pictorial Summary of the Principal Sources of Railway Revenues and the Causes of Expenses as Recorded in the Accounts.

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